COMPUTERWORLD

THE NEWSPAPER FOR IT LEADERS • WWW.COMPUTERWORLD.COM

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FOR OUR READERS:

1.

Inside:

This issue of Computerworld reveals the results of our extensive research to identify this year's Premier 100 IT Leaders. In this special section, you'll see how these IT executives have become outstanding practitioners and early adopters of leading-edge IT.

2.

2nd Annual

COMPUTERWORLD

PREMIER 100

IT LEADERS CONFERENCE

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Selected Speakers:

Ralph Szygenda
CIO
General Motors

Laura Olle

Marge Connelly

Co-CIOs
Capital One Financial Corp.

Harvey Seegers
President & CEO
GE Global eXchange Services

Irene Dec
VP International Investments
Prudential Insurance

Patty Seybold
CEO
Patricia Seybold Group & Author of *Customers.com*

Doug F. Busch
CIO
Intel Corp.

Chet Huber
President
OnStar

Eddie Schwartz
VP of Strategy
Guardent, Inc.

Panels & Sessions:

- **ROI**

  The New ROI: Tracking Technology Payback in a Tough Economy

- **Wireless**

  Wireless Warriors and the Challenge of M-Commerce

- **Globalization**

  IT's Mission Impossible: Globalization and E-Business

- **Security & Privacy**

  The Heavy Hand of Uncle Sam in Security and Privacy Protection

- **Connecting Your Customer**

  The Next Wave of E-Commerce: Connecting Your Customer Channels

See inside cover for full agenda

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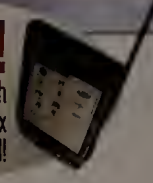

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2nd Annual
COMPUTERWORLD
100 PREMIER
IT LEADERS
CONFERENCE

May 20-22, 2001
Westin Mission
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Learn from the Top IT Leaders this May...

Computerworld's Premier 100 IT Leaders are technologists who understand business needs, take calculated risks and lead through innovation. They are vice presidents of IT, CIOs, IS directors and business managers honored as Computerworld's Premier 100 from a wide swath of vertical industries. When you attend this unique conference, you'll hear proven examples of how these IT Leaders have advanced their organizations through innovative leadership.

Crafted by Computerworld editors, this conference offers a radical departure from the standard IT event. With a focus on great ideas, best practices and real applications of IT strategy, you'll gain direct insight from leading user organizations.
The major sessions at Computerworld's Premier 100 IT Leaders Conference will provide highly interactive, entertaining discussions with IT Leaders and industry experts — each moderated by Computerworld editors in a town-hall meeting format. Key topics will center on the intersection of technology and business in areas critically important to IT Leaders.

CONFERENCE AGENDA

SUNDAY, MAY 20

12:00 - 5:00pm
GOLF TOURNAMENT FOR PRE-REGISTERED ATTENDEES

7:00 - 8:30pm
PRE-CONFERENCE EVENING NETWORKING RECEPTION

MONDAY, MAY 21

8:00am
WELCOME & OPENING REMARKS
Alan Guibord, CEO, Computerworld
Maryfran Johnson, Editor-in-Chief, Computerworld

8:15am
OPENING KEYNOTE:
GOING DIGITAL THE OLD-FASHIONED WAY: GM'S LEVEL-HEADED APPROACH TO E-BUSINESS
Ralph Szygenda, CIO, General Motors

9:00am
PANEL 1:
IT'S MISSION IMPOSSIBLE: GLOBALIZATION AND E-BUSINESS
Panel Moderator: Sarwar Kashmiri, CEO, EbizChronicles.com

Ready or not, the Web is making the globalization of business a reality. But pursuing a global strategy means more for IT than creating a worldwide network infrastructure, setting up foreign distribution or hiring IT talent abroad. Your organization can count on running into a formidable set of barriers: everything from cultural, political and regulatory roadblocks online, to troubles with technology infrastructure, privacy and security concerns, and hiring restrictions. The good news is that an increasing number of countries are racing to make legal and infrastructure improvements to attract foreign businesses. So how does an IT Leader go about getting a grip on strategy to support the enterprise's global business objectives? Our panel will share its collective international experience to send you off with a host of good ideas along with an action-item list.

10:00am
BREAK

10:15am
OLD RULES, NEW GAME: BUILDING PRUDENTIAL'S GLOBAL E-STRATEGY
Irene Dec, VP International Investments, Prudential Insurance

11:00am
PANEL 2:
THE NEXT WAVE OF E-COMMERCE: CONNECTING YOUR CUSTOMER CHANNELS
Panel moderator: Kevin Fogarty, Business & Technology Editor, Computerworld

The customer economy has arrived with a vengeance, trailing massive numbers of Customer Relationship Management (CRM) systems in its wake. But integrating disparate CRM applications and re-architecting workflow to get that mythical 360-degree view of the customer remains a major hurdle for IT. Online and offline, companies are investing in ways to personalize customer-care technologies such as voice over IP and real-time chat. But are you wasting time fretting about customer relationships when you should be managing customer value? Are you tying all of your customer channels together — in realtime — to leverage existing investments in front-office and legacy applications? This panel will bring together diverse industry views on a topic that ultimately affects every company's bottom line.

12:00pm
INTERACTIVE LUNCH:
RECRUITING & RETAINING TOP TALENT

1:30pm
AFTERNOON KEYNOTE:
SURVIVING THE REVOLUTION AND THRIVING IN THE CUSTOMER ECONOMY
Patricia Seybold, CEO, Patricia Seybold Group and Author of "Customers.com" and "The Customer Revolution"

2:15pm
PANEL 3:
WIRELESS WARRIORS AND THE CHALLENGE OF M-COMMERCE
Panel moderator: Bob Brewin, Senior Editor, Wireless Technology, Computerworld

Few technologies hold as much promise — or pose as many perils — as wireless networks and mobile computing. From privacy rules and regulations to the complex relationships between content providers, aggregators and service providers, IT Leaders face an array of business and technology challenges in building a reliable wireless infrastructure. What are the best practices in deploying mobile commerce applications that resolve security concerns and location-service controversies? Which applications make the most sense for wireless LANs? How do you choose an architecture that works well for your user base? How solid is the Wireless Application Protocol (WAP) standard for unifying handheld devices and wireless networks? Our panelists will examine these core questions through the lens of their own experience, coming up with some practical recommendations for the next wave of wireless warriors.

3:00pm
BREAK

3:10pm
CLOSING KEYNOTE:
THE ABILITY TO RISK INNOVATIONS
Chet Huber, President, OnStar

3:55pm
CLOSING REMARKS

4:00pm - 5:30pm
SPONSOR BREAKOUT SESSIONS

5:30pm - 8:30pm
COCKTAIL/NETWORKING RECEPTION
EXPO & BUFFET DINNER

TUESDAY, MAY 22

8:00am
OPENING REMARKS
Alan Guibord & Maryfran Johnson

8:15am
OPENING KEYNOTE:
IT LEADERSHIP IN A CHANGING ECONOMY
Doug Busch, CIO, Intel Corp.

9:00am
PANEL 4:
THE HEAVY HAND OF UNCLE SAM IN ONLINE SECURITY AND PRIVACY PROTECTION
Panel Moderator: Alan Paller, Research Director, SANS Institute

Wherever technology touches its citizens these days, the U.S. government seems to be there with new regulations or proposed legislation. Legitimate concerns about data privacy — particularly with medical records — are further politicizing these hot-button areas where IT can clearly be held responsible. The high-tech sector remains split about how to approach online privacy guarantees in the U.S., while the European Union has already adopted tough data protection laws that multinational companies must follow. What will these diverging sets of international privacy laws mean for your company? On the flip-side of the privacy coin is security. What role should the government play in helping companies protect their systems from threats? What concerns do you have about government involvement? Our expert panel will talk about strategies for keeping a step ahead of Uncle Sam in this uncertain, potentially explosive, regulatory environment.

10:00am
BREAK

10:15am
PRIVACY - IT'S NOT JUST A COMPLIANCE ISSUE
Eddie Schwartz, VP of Strategy, Guardent, Inc.
(former Chief Security Officer, Nationwide)

11:00am
TOWN HALL MEETING:
"ASK THE CAREER EXPERTS"
Maryfran Johnson

12:00pm
EXPO & BUFFET LUNCHEON

1:30pm
AFTERNOON KEYNOTE:
THE BEST OF BOTH WORLDS: THE SYNERGY BETWEEN OPERATIONS AND IT
Laura Olle and Marge Connelly, Co-CIOs, Capital One Financial Corp.

2:15pm
PANEL 5:
THE NEW ROI: TRACKING TECHNOLOGY PAYBACK IN A TOUGH ECONOMY
Panel Moderator: Julia King, Executive Editor, ComputerworldROI

The IT spending spree of the past few years is over. The Y2K glitches are fixed. The massive Enterprise Resource Planning (ERP) systems are installed. The build-out of e-business is ongoing, but the pace has slowed with the downturn of dot-com fortunes. But the intersection of IT and business is still a very busy place. Now is the time to recession-proof your IT organization, generate some new ideas and find new revenue streams. How is your company using the Internet to streamline processes within the organization and deal more effectively with your supply chain? Are you creating online relationships with partners and competitors alike? Where can you use IT to create new products and services? Getting focused on the real business opportunities and the ROI behind technology expenditures is the mission of this panel.

3:15pm
BREAK

3:25pm
CLOSING KEYNOTE:
ESSENTIAL INGREDIENTS FOR B2B MARKETPLACE LIQUIDITY
Harvey Seegers, President/CEO, GE Global eXchange Services

3:55pm
CLOSING REMARKS
Alan Guibord & Maryfran Johnson

4:00 - 5:30pm
SPONSOR BREAKOUT SESSIONS

7:00pm
COCKTAIL RECEPTION, ENTERTAINMENT AND GALA AWARDS DINNER

CONFERENCE CHAIR

Maryfran Johnson
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SO SUE ME!

Legal spats are on the rise as outsourcing vendors and customers spar over results. Page 42

E-MAIL OVERFLOW

A mishmash of new homegrown and commercial tools help IT pros like Brian Brylow keep from being swamped. Page 60

NET DISRUPTION

Jim Champy says the Internet is "disruptive" technology. But is it disruptive enough? Page 41

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B2B STANDARD READY FOR SCRUTINY

Posted online today, ebXML specs include Microsoft SOAP protocol for data exchange

BY MICHAEL MEEHAN

Starting today, the public will be able to get a detailed look at what could be the key to unifying the fragmented world of business-to-business e-commerce, as the public review of electronic business XML gets under way.

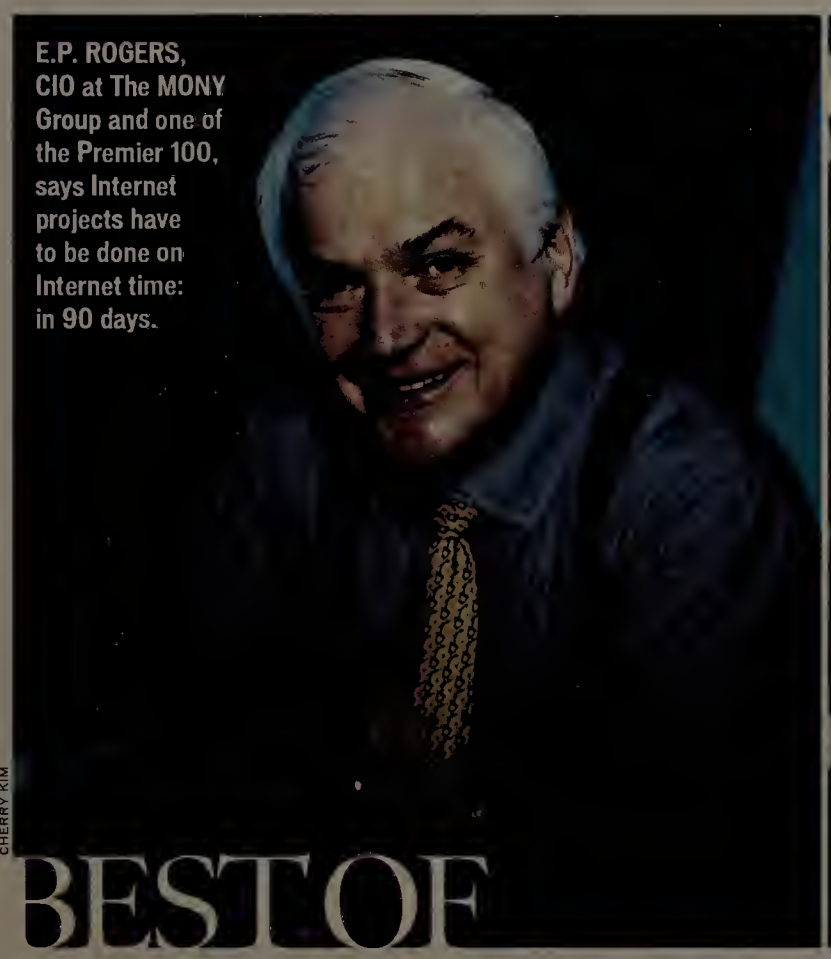
COOPERATIVE COMMERCE

Included in the standard will be protocols to handle transport routing, trading partner agreements, security, document construction, naming conventions and business process integration — the soup-to-nuts menu for online commerce.

More than 2,000 people from 30-plus countries have helped develop the ebXML specifications, which are set for final approval in Vienna in May. Behind the 18-month effort are a United Nations e-business trade bureau called UN/CEFACT and a consortium called the Organization for the Advancement of Structured Information Standards, or OASIS.

The standards group was led by executives from IBM, Sun Microsystems Inc. and Microsoft Corp., which contributed some late but important input. The ebXML organizing body

ebXML, page 16



CHERRY KIM

E.P. ROGERS, CIO at The MONY Group and one of the Premier 100, says Internet projects have to be done on Internet time: in 90 days.

BEST OF THE BEST

IT LEADERS KNOW HOW TO BUILD KILLER SYSTEMS and make tough outsourcing decisions. But they also have their "soft" sides, whether they're nurturing employees or schmoozing in the boardroom. The executives selected as *Computerworld*'s Premier 100 IT Leaders have this special blend of skills. How do you measure up?

Special supplement begins after page 40.

Additional content online at: www.computerworld.com/premier100

VERISIGN GLITCH HITS WINDOWS

Fraudulent digital certificates issued

BY JAIKUMAR VIJAYAN

Microsoft Corp. is developing updates for all versions of its Windows operating systems, from Windows 95 forward, for a digital certificate glitch that originated at security services vendor VeriSign Inc.

The companies warned last week that two digital certificates mistakenly issued in Microsoft's name could be used by malicious attackers to trick users into running unsafe programs. An advisory on Microsoft's Web site alerted users to any certificates issued on Jan. 29 or 30 and recommended some self-protection measures (see chart, page 16).

VeriSign, page 16

USERS YAWN AT LATEST .NET PITCH

Little business impact seen for HailStorm

BY LEE COPELAND GLADWIN

Microsoft Corp. last week outlined what it hailed as the most important building block of its .Net distributed Web services strategy. But the consumer-oriented technology called HailStorm is barely a cloud on corporate users' horizons.

Despite last week's extensive briefings led by company Chairman Bill Gates, IT executives said Microsoft's plans are still vague on the business aspects of the software vendor's ambitious .Net initiative.

"Microsoft markets things well, but there are lots of gaps in what they're promising with .Net," said John Donovan, vice president of MIS at The Orvis Co. in Manchester, Vt. Nevertheless, the distributor of fly-fishing and hunting equipment plans to implement Microsoft's Web services down the road, even though Donovan said he has a "number of questions and concerns" about when the various pieces of the .Net plat

HailStorm, page 70

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ERIC MILLETTE

SUMMER SCHOOL FOR EXECS

Forget vacation. Hunker down with leadership training and use your summer to produce more than just a tan. Page 46

SUZY PILGRIM WATERS

THREAT FROM WITHIN

Security chiefs like Bill Hancock are finding that they need a new breed of distributed, centrally managed personal firewalls to prevent attacks from inside the network. Page 64

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MARCH 26, 2001

NEWS 6

6 NOVELL PINS its hopes for a comeback on a new networking strategy, while users ask for more effective marketing.

7 LAWMAKERS SLAM medical data privacy rules announced last year; health care vendors concur.

7 CELL CARRIERS VOW to start providing supercharged wireless service this year.

8 FBI TARGETS employees with access to sensitive data networks for polygraph tests in the wake of the Hanssen spy case.

8 FLORIDA MAN FACES up to 10 years in prison after pleading guilty to a charge of intentionally damaging computers owned by Verizon Communications.

8 FEDS TAP VETERAN investigator Ronald Dick to lead the FBI's cyberdefense unit.

10 H-1B APPLICATIONS drop sharply as the economy slows.

14 SUN LAUNCHES a new midrange server line that supports features previously found only on mainframe-class systems.

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BUSINESS 33

36 FTC LAUNCHES an investigation to see if electronic data collection tools violate consumer protection laws.

37 WEBMD CASE highlights the struggles faced by health care companies as they prepare for pending privacy regulations.

40 ONLINE GROUPS help build business for weight-loss industry leaders like Weight Watchers and Slim-Fast.

WORKSTYLES

41 HACKER RELATIONS is a great job description for Great Bridge Vice President Ned Lilly, but the gig requires a unique mix of skills.

42 LAWSUITS MULTIPLY as IT departments outsource more projects. But are they justified?

QUICKSTUDY

48 REVERSE MERGERS can be a simple alternative to filing an initial public offering, but the risks can be high.

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56 THE FUTURE LIES in the interfaces between humans and computers, and it's getting closer, say speakers at the ACM1 conference.

SECURITY JOURNAL

58 MATHIAS THURMAN weighs the costs and benefits of using the Secure Sockets Layer protocol.

FUTURE WATCH

59 SHIPPING IS headed down the tubes in capsules, some traveling at more than 2,000 miles per hour, say inventors.

60 COMPANIES SCRAMBLE to keep e-mail flowing, using a mix of policies, homemade tools and utilities.

EMERGING COMPANIES

66 BTRADE.COM'S software helps companies set up secure B2B document exchanges.

SKILLS SCOPE

67 CUSTOMERS DEMAND easy access to hard-to-find data, which raises the demand for IT pros with directory skills.

ONLINE

Marcia A. Balestrino (left), CIO of Girl Scouts of the USA, is representative of the IT professionals on this year's *Computerworld* **Premier 100 IT Leaders** list. See her story, profiles of other winners and information about this year's **Premier 100 Conference** at *www.computerworld.com/premier100.*

Robert Hall, managing director of Boston-based Xchange Inc., looks at the dismal satisfaction rates of **customer relationship management**. His conclusion: Companies that ignore the human element of business do so at their own peril. *www.computerworld.com/ecommerce*

In our **E-Commerce Community**, West Coast bureau chief **Pimm Fox** considers the woes of Yahoo Inc. and the wreckage of the dot-com economy. *www.computerworld.com/ecommerce*

OPINIONS

28 MARYFRAN JOHNSON finds that leadership is the common thread among the Premier 100 but the leaders themselves aren't always who you'd think.

29 DAVID MOSCHELLA writes that the way the court handled the Microsoft antitrust appeal has put the proper focus on the merits of the case.

30 DAN GILLMOR predicts that whatever data privacy legislation comes out of Congress this year will likely be useless.

30 MICHAEL GARTENBERG offers 10 tips to help improve your salesmanship skills.

36 KEVIN FOGARTY warns that a drooping economy is a poor excuse for limp IT leadership.

41 JIM CHAMPY lists five questions that will help predict whether a technology can be labeled "disruptive." The Internet, he says, already qualifies, but are you making the most of that disruption?

80 FRANK HAYES says many CRM and sales force automation projects fail because no one's thinking of what salespeople need to do their jobs.

AT DEADLINE

New Linux Worm On the Loose

A dangerous worm began spreading across the Internet late last week, infecting Linux servers running vulnerable domain name software, the SANS Institute said. Called Lion, the worm steals passwords, installs and hides other hacking tools on the infected system, and then uses that system to begin looking for other servers to attack, said Bethesda, Md.-based SANS. Lion takes advantage of a vulnerability in the Internet Software Consortium's Berkeley Internet Name Domain (BIND) server that was disclosed in January. The only defense against the worm is to upgrade vulnerable versions of BIND. Security experts have developed a utility that detects whether a server is infected; it's posted on the SANS Web site at *www.sans.org*.

FCC to Rule on 3G Spectrum Allocation

The mobile wireless industry's insatiable demand for bandwidth has it eyeing spectrum being used by major telecommunications firms, universities and the U.S. Department of Defense, all of which are wielding their considerable clout to force a hands-off policy for their coveted frequencies. The battle will come to a head March 30, when the Federal Communications Commission earmarks new spectrum for high-speed third-generation (3G) wireless networks.

Short Takes

AT&T CORP. has agreed to acquire the assets of bankrupt Digital Subscriber Line service provider **NORTHPOINT COMMUNICATIONS GROUP INC.** in San Francisco for approximately $135 million. . . . **COMPAQ COMPUTER CORP.** announced a $100 million deal with **ALLSCRIPTS HEALTHCARE SOLUTIONS** in Libertyville, Ill., to provide physicians with iPac PCs. They can use the wireless handheld computers to access patient information. . . . Citing overcapacity for processing online trading orders in light of the recent stock market sell-off, San Francisco-based **CHARLES SCHWAB & CO.** announced plans to cut 11% to 13% of its workforce. The bulk of the cuts will come in the second quarter.

Novell Pressed to Bolster Image, Strategy

Users want Novell to boost marketing to help sell their bosses on its network services

BY MARC L. SONGINI

Ailing Novell Inc. has a strong e-business strategy and product lineup, but the company still faces an image problem, said users and analysts.

At its BrainShare 2001 event last week in Salt Lake City, Novell made a number of e-business-related product announcements and began outlining its strategy to rebound from declining profits and massive layoffs.

Novell executives claimed that One Net, its strategy of tying heterogeneous intranets and extranets together using Novell's directory and security technology, is paying off.

However, users at BrainShare said one of the major obstacles blocking more widespread adoption of Novell's networks services offering is that they have trouble convincing upper-level management to buy into Novell's strategy.

"I think they have everything in place right now to enable you to put together an unbelievable enterprise [network]," said Rich Wyant, manager of Novell technical services at Beverly Hills, Calif.-based Twentieth Century Fox Film Corp. "It's just a matter of getting the buy-in from management," he added.

Twentieth Century Fox already uses Novell's directory services software to let end users at 35 sites around the world access central resources over the Web, according to Wyant. The company also uses Novell's firewall software and has ongoing projects based on Novell's administration and integration technologies, including a tool called Single Sign-on that lets users access all network applications with one password.

MOREONLINE
For an exclusive interview with Eric Schmidt, visit our Web site.
www.computerworld.com/more

Portal Services 1.0, Novell's new Internet portal product, caught the attention of Bruce McLeod, a system architect for network services at the California Highway Patrol in Sacramento. The highway patrol has a 10,000-seat network based on 200 NetWare servers and uses Novell's GroupWise for e-mail. The single-view portal software that Novell announced last week could instantly distribute messages out to all highway patrol personnel from a central location, McLeod said.

Notifying workers to conserve as much power as possible during California's energy crisis has required the use of "a clumsy mechanism" in Novell's management software, he added.

Several users said they want to see a stronger marketing campaign that would help them sell the Novell road map to their bosses.

Novell has the ideal directory and security technology to make patients' records secure and accessible over various heterogeneous information systems, in compliance with the Health Insurance Portability and Accountability Act, said Daniel Long, technical services manager at Naples Community Hospital in Naples, Fla. But he said he fears he will be unable to get upper management to buy into the idea.

"Novell doesn't mean NetWare," said Long. "We have [access to] excellent products, such as Single Sign-on, which are cross-platform and augment and cement the [Windows] NT platform, but I can't seem to get the message across."

Novell's acquisition of Cambridge, Mass.-based service and consulting firm Cambridge Technology Partners Inc., announced earlier this month, should help Novell sell integrated e-business solutions to the managers who make buying decisions, said Neil MacDonald, an analyst at Gartner Inc., a Stamford, Conn.-based consultancy. "They still have to get credibility at the CXO level," he said.

Novell CEO Eric Schmidt announced earlier this month that he plans to step down as head of the firm; Jack Messman, president and CEO of Cambridge Technology Partners, will replace him [News, March 19]. Schmidt will remain as chairman and chief strategist of Novell.

Consulting Budgets Squeezed During Economic Downturn

Nervous customers curbing spending on outside contracts

BY JULEKHA DASH

Scaled-back IT plans in response to a slowing economy have led some firms to slash their IT consulting budgets in an effort to rein in spending.

The trend has taken its toll on consulting and systems integration firm Computer Sciences Corp. (CSC), which last week warned that fourth-quarter profits would fall to 35 to 37 cents per share on a diluted basis, well below the 92 cents per share that analysts predicted. The profit warning cited a decline in demand in both the U.S. and Europe.

"Everywhere I look, companies are being told to 'get rid of your contracts with consultants' to save money," said Dave Pensak, principal consultant in advanced computing technology at Du Pont Co. in Wilmington, Del.

El Segundo, Calif.-based CSC said it plans to eliminate as many as 900 jobs due to the earnings shortfall. Xpedior Inc., a Chicago-based e-business consulting firm, also announced last week that a decline in revenue has prompted it to lay off 300 employees, or 42% its workforce.

In a survey of 20 European and 50 U.S. CIOs released two weeks ago by New York-based investment banking firm Merrill Lynch & Co., nearly half of the respondents said they will spend less on this year's IT budgets than they did last year. They also said the economic slowdown has forced their firms to prioritize or even delay projects. Forty percent said they will reduce the number of consultants they use.

"We normally maintain relationships with a number of consultants, but for the first half of this year, we're aiming to reduce these relationships because of the change in the market environment," said Steve Norwitz, a spokesman for Baltimore-based asset management firm T. Rowe Price Associates Inc.

Norwitz added that the consulting pullback is "being played out across the financial services industry."

Last year, "everyone was trying to increase their revenues through consulting and Web transformation [projects]," said Joshua Randall, an analyst at Kennedy Information Research Group in Fitzwilliam, N.H. Today, "more clients are trying to control costs. . . . One way they can do that is by cutting back on professional services spending," he said.

Other companies are turning to offshore outsourcing. The Prudential Insurance Company of America in Newark, N.J., for instance, expects to save $20 million or more per year by replacing some U.S. consultants with IT workers in a facility it opened last year in Ireland [Business, Feb. 12].

Belt Tightening

Signs of a consulting slowdown:

FEBRUARY 12 Verizon Communications says it will eliminate 10,000 jobs, including a reduction in consultants.

MARCH 9 Cisco Systems Inc. says staff cuts will include 2,500 to 3,000 temporary contract workers.

MARCH 19 CSC announces profit shortfall due to slowing demand; says it will lay off up to 900 workers.

MARCH 20 Xpedior says it will lay off 42% of its staff due to a decline in earnings.

HIPAA Patient Privacy Rules Under Fire in Washington

Opponents claim implementation costs a huge burden for hospitals

BY PATRICK THIBODEAU
WASHINGTON

THE SWEEPING set of medical data privacy rules that were announced late last year by the Clinton administration are under fire and in limbo.

The Bush administration last month delayed implementing the regulations. Then, last Thursday, Republican members of a U.S. House subcommittee that deals with health issues criticized the pending rules, as did industry groups that testified at a hearing here.

The rules prepared by the U.S. Department of Health and Human Services (HHS) will require system changes that "are massively more complex and costly than Y2k" fixes were, testified Robert Heird, a senior vice president at Anthem Blue Cross and Blue Shield in Indianapolis.

Heird added that a study by the Blue Cross and Blue Shield Association in Chicago estimated that individual hospitals will incur costs of between $775,000 and $6 million to bring themselves into compliance with the rules — well above the federal government estimates of $100,000 to $250,000.

Moreover, Heird said, the two years that HHS plans to give companies to comply with the rules isn't enough time to thoroughly test the system changes that would be needed at many hospitals.

The regulations are the final version of proposed rules that HHS issued to Congress last year after Congress failed to pass comprehensive medical privacy legislation on its own.

Rep. James Greenwood (R-Pa.) called the rules, which grew out of the 1996 Health Insurance Portability and Accountability Act (HIPAA), an "abject failure" that will increase paperwork as well as medical errors.

Greenwood called on President Bush to reject the rules as unworkable and urged Congress to pass new legislation on the privacy issue.

But some Democrats on the subcommittee, who criticized the Bush administration for rolling back workplace ergonomics rules and the planned imposition of more stringent limits on arsenic levels in water supplies, said the HIPAA privacy regulations should be strengthened, if anything. "Congress should be looking at filling in the gaps in privacy protection," said Rep. Henry Waxman (D-Calif.).

The HIPAA was originally due to take effect at the end of February, but HHS Secretary Tommy Thompson moved that date to April 14 and is allowing new public comments on the rules to be submitted until March 30. Before this new comment period was opened, HHS had received some 52,000 public comments on the regulations.

Citing the extensive review process that already took place, Janlori Goldman, director of the health privacy project at Georgetown University in Washington, said the Bush administration should implement the rules immediately. Opponents, she said, are just trying "to delay the regulations indefinitely."

House subcommittee members on both sides of the aisle said they weren't happy that no one from the administration testified last week.

But Thompson told another congressional committee earlier this month that it would be inappropriate for him to comment on the HIPAA rules while new public comments are being sought.

Nonetheless, subcommittee Chairman Michael Bilirakis (R-Fla.) said he wants someone from the administration to testify about the regulations.

Rep. John Dingell (D-Mich.) offered to help. "We will seek to raise the pain level for the secretary if he chooses not to cooperate," he said.

Diagnosis: Delayed

The latest on the HIPAA medical privacy rules:

NEW EFFECTIVE DATE: April 14. The rules were originally due to take effect at the end of last month.

WHAT'S GOING ON: A new round of public comments is being sought on the privacy rules.

WHAT'S NEXT: Congress wants HHS Secretary Thomson to spell out the Bush administration's position.

High-Speed Mobile Wireless Takes Three Big Steps Forward

Three of top cell phone carriers to support supercharged wireless service by year's end

BY BOB BREWIN
LAS VEGAS

High-speed wireless Internet access edged closer to reality last week, as three of the four top U.S. cellular telephone carriers promised to start providing supercharged wireless service this year, backed by multibillion-dollar infrastructure contracts.

Lacking, however, were details on pricing — the issue most important to customers.

At the annual conference here for the Washington-based Cellular Telecommunications & Internet Association (CTIA), Verizon Wireless kicked off the broadband wireless buzz with a $5 billion order for third-generation (3G) network equipment from Lucent Technologies Inc. in Murray Hill, N.J. The deal will allow Verizon to provide 144K bit/sec. service in unspecified markets before the end of the year.

Meanwhile, Kansas City, Mo.-based Sprint PCS Group said it will spend $2 billion during the next two years to provide cellular phone service that will start at 144K bit/sec., ramp up to 307K bit/sec. next year and reach 2.4M to 3.5M bit/sec. in 2004. Verizon Wireless in Bedminster, N.J., will provide similar throughputs, analysts and industry experts said, since Verizon and Sprint PCS will build 3G networks based on Code Division Multiple Access technology developed by Qualcomm Inc. in San Diego.

Charles Levine, president of Sprint PCS, said that despite the sizable investment required to upgrade the company's networks, the actual work should be relatively easy. "All we have to do is switch out cards [in network equipment], while other carriers will have to bring in forklift loads of gear," he said.

AT&T Wireless Services Inc. Chief Technology Officer Rod Nelson said his firm is still on schedule to roll out its 3G network based on both the Global System for Mobile Communications and the Time Division Multiplex Access standards in the second half of this year, with full deployment in 2003. However, a press release from the Redmond, Wash.-based firm said that the 2003 rollout is "subject to the availability of network equipment and customer devices."

While the carriers trumpeted their infrastructure plans, they kept mum about pricing. Levine repeatedly declined to address Sprint's pricing at a news conference here, saying only that high-speed data service would command a premium over current voice plans that charge approximately $100 for 1,000 minutes per month.

"None of the carriers have talked about their pricing plans, and without pricing, how real is 3G?" said Craig Mathias, an analyst at Farpoint Group in Ashland, Mass. "Right now, all we have are statements of intent. It is going to happen, but it will probably take longer than anyone thinks."

Jerry Yang, co-founder of Santa Clara, Calif.-based Internet portal Yahoo Inc., said that average wireless connection speeds of 9.6K bit/sec. suffer "in a world where competitiveness is based on how fast you can deliver bits." For wireless carriers to compete with fixed-line connections, they need to figure out "how to shove more data down their pipes," said Yang. "Until that happens, there will be less emphasis on data than in fixed line."

Users welcomed the 3G network rollout plans, saying that without higher speeds, the wireless Internet can't keep up with the wired Internet.

FedEx Corp., which operates a nationwide private wireless network capable of speeds of 19.2K bit/sec., has already started talking to carriers about their ability to provide higher-speed service, said Randy Ford, the Memphis-based company's manager of wireless system design. "We are looking at new technologies to augment our private network to provide us with even more information faster," he said.

The 3G Rollout

- **AT&T Wireless,** Sprint PCS and Verizon Wireless plan limited service at 144K bit/sec. by year's end.
- **Speeds will increase** to 307K bit/sec. by next year and 2M to 3M bit/sec. by 2004.
- **Users say higher speeds** are necessary to ensure widespread adoption of wireless Web services.
- **Companies so far have** declined to provide price plans.

FBI Sys Admins Face Lie Detector Tests

Polygraph testing to expand in response to Hanssen spy case

BY DAN VERTON

THE FBI has quietly expanded its use of the polygraph to cover systems administrators and all other employees with access to sensitive computer networks and databases, marking the first time that government IT specialists have been singled out for the controversial lie detector test.

FBI Director Louis Freeh issued a memo two weeks ago that put the policy into effect immediately, agency spokesman Bill Carter confirmed last week.

"The director notified all employees that interim changes have been made to the FBI security program, including an expansion of the use of the polygraph to cover employees in sensitive areas," Carter said. Until now, the FBI's polygraph policy has been used to conduct periodic tests of employees at random.

The policy change is a direct response to the Feb. 18 arrest of Robert Philip Hanssen in one of the most damaging spy scandals in the bureau's history. Hanssen, a career FBI agent with access to highly classified counterintelligence databases, is accused of spying for Russia since 1985. The computer-savvy counterintelligence agent used his access to the FBI's Electronic Case File system to check whether the bureau had been alerted to his activities.

The new FBI policy also includes what Carter called technical "enhancements" to the bureau's ability to monitor and analyze the computer activity of employees in sensitive areas of the bureau and to detect "anomalies."

Steven Aftergood, who runs the Project on Government Secrecy at the Federation of American Scientists in Washington, said he thinks this is the first time systems administrators have been singled out to take the polygraph.

Still, it's unclear, pending the release of an ongoing independent review of the Hanssen case, whether the polygraph policy will remain in effect.

Polygraphs are used regularly by the CIA as a hiring tool and as a method of uncovering spies. Employees are hooked up to a machine that records breathing rate, blood pressure and sweat gland activity during a series of questions. Changes in those rates are then recorded and used to determine truthfulness. But experts are split on the test's accuracy and acknowledge that honest people can be misread.

Alan Paller, director of research at the SANS Institute, a security research organization in Bethesda, Md., characterized the focus on internal security and personnel monitoring as "the Carnivore effect," referring to the FBI's controversial system for e-mail monitoring.

"People have discovered that system administrators have unfettered access to all the most private information being passed through their systems," he said. "With it comes a sense that there ought to be some controls on what they see and what they do with it. [However], I have not seen any consensus on what they are going to do about these discoveries."

John Pescatore, an analyst at Stamford, Conn.-based Gartner Group Inc., said that there are benefits to subjecting systems administrators to polygraphs but that he doesn't see such testing becoming widespread. The national security community does them only every five years, on average, because of cost, but "the average time at a job of a system administrator is less than three years," he said.

AT A GLANCE

The Polygraph

- The Employee Polygraph Protection Act of 1988 (EPPA) prohibits most private employers from using polygraph testing to screen applicants for employment.
- The EPPA doesn't bar polygraph testing by public employers such as police and intelligence agencies.
- Polygraphs are 85% to 95% accurate for specific-issue testing.
- Topics that are off limits include: Religious beliefs or affiliations, opinions regarding racial matters, political beliefs or affiliations, affiliations or lawful activities regarding unions or labor organizations, and sexual preferences or activities.

IT Worker Pleads Guilty to Sabotaging Computers

Ex-GTE employee caused $200k in damage

BY BRIAN SULLIVAN

A 32-year-old Florida man faces up to 10 years in prison and a $250,000 fine after he pleaded guilty last week to a charge of intentionally damaging protected computers at a network support center owned by Verizon Communications Inc. That's according to a plea agreement released this week by the U.S. Attorney's Office in Tampa, Fla.

Michael Whitt Ventimiglia, a former IT worker at GTE Corp., is scheduled to be sentenced within the next three months for deleting information stored on systems in the Tampa-based facility, said Steve Cole, a spokesman for the U.S. Attorney for Central Florida. The incident took place last May, shortly before GTE merged with Bell Atlantic Corp. to form Verizon. Cole said Ventimiglia's actions resulted in more than $200,000 in damage at GTE's Network Service Support Center.

Assistant U.S. Attorney Donald L. Hansen said Ventimiglia used his ability to gain access to GTE's secure computers at about 3 a.m. on May 15. Once he had access, Hansen said, Ventimiglia began to erase data contained in the computers and entered a command that prevented anyone from stopping the destruction process.

Hansen and Cole said they didn't know what motivated Ventimiglia to tamper with the systems. Attempts to reach Ventimiglia and his attorney were unsuccessful.

However, because of his job, Ventimiglia had access "to a secure area, and he severely abused those privileges," said Verizon spokesman Bill Kula. "Regrettably, a rogue employee committed a crime against the company, and we fired him. All the necessary steps were taken to protect our customers, and at no point in time was any of our customers' information jeopardized."

Computer crime analyst Ron Russ, CEO of RLRA Inc. in Alvarado, Texas, said this kind of incident is difficult to stop. "A lot of disgruntled employees will damage their employers' [systems]," he said. "And if they're good, it is relatively difficult to pinpoint who did it."

FBI Gets New Cyberdefense Leader Amid Capitol Hill Debate

BY DAN VERTON

The FBI last week appointed one of its veteran investigators to head the bureau's cyberdefense unit. Meanwhile, security experts and lawmakers on Capitol Hill continue to debate how best to organize federal efforts to protect the nation's critical infrastructure from a devastating cyberattack.

FBI Director Louis Freeh announced the appointment of Ronald Dick as head of the National Infrastructure Protection Center (NIPC). Dick, a 24-year veteran of the agency with a background in investigating computer crimes, replaces Michael Vatis, who recently left the NIPC to become director of the Dartmouth College Institute for Security Technology Studies in Hanover, N.H.

Dick inherits the helm of the NIPC at a turning point for the 3-year-old organization. The NIPC has been criticized by security experts for what some have called a "fundamental inability to communicate" with the rest of the national security community.

That problem, coupled with the sheer number of organizations involved in national cybersecurity, has led some experts and members of Congress to call for a drastic overhaul and consolidation of federal cyberdefenses.

Dick's "solid credentials as an FBI agent should be an asset in the bureaucratic tugs-of-war ahead," said Steven Aftergood, an analyst at the Federation of American Scientists in Washington.

CYBERDEFENSE chief Ronald Dick

In one of his first steps toward demonstrating a coordinated federal approach to cybersecurity, Dick last week publicly introduced the Cyber Incident Coordination Group, a group of select cyberintelligence experts from the CIA, the National Security Council, the Critical Infrastructure Assurance Office and the FBI. Despite these advances in cooperation, the Bush administration has already hinted at a preference for a more centralized management structure for cyberdefense issues.

Officials from private companies that own and operate the majority of the nation's infrastructures that are vulnerable to major cyberinduced disruptions have privately said a more streamlined federal effort would enhance cooperation between the government and industry.

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BRIEFS

Staples Melds Online, Catalog Operations

Office supply retailer Staples Inc. last week announced plans to combine its e-commerce affiliate with a catalog operation aimed at small businesses and consumers. Framingham, Mass.-based Staples said it's also withdrawing a planned public offering of a tracking stock for the Staples.com venture as part of the move. Stock that had been created for Staples.com will be converted into regular Staples stock, provided the plan is approved by the company's shareholders this spring.

HP Creates Services And Consulting Unit

Hewlett-Packard Co. announced the creation of a services and consulting business unit last week, naming Ann Livermore its president. Livermore, who had been president of HP's business customer organization, will report directly to Carly Fiorina, HP's chairwoman, president and CEO. HP last year abandoned a plan to buy the consulting practice of PricewaterhouseCoopers as a means of beefing up its service offerings. Before the market meltdown of the fourth quarter, HP had been pursuing a $17 billion to $18 billion bid for the firm's consulting arm. HP dropped the idea in November after missing third-quarter earnings estimates by 21%.

Bush Selects FTC Chairman

President Bush last week chose Timothy J. Muris, a professor at George Mason University School of Law in Arlington, Va., and a former Reagan administration official, to replace Robert Pitofsky as chairman of the Federal Trade Commission. Although Pitofsky's term expires in September, he said in a statement that he will resign as soon as Muris is confirmed for his seven-year term, probably no later than June 1. With Pitofsky, a Democrat, leaving the commission, the Republican Party members will have a 3-2 majority. Pitofsky has backed regulation of online privacy, but the GOP members of the commission have opposed some of his positions.

Bush Administration Seeks IT Budget Boost

State Department wants $273M overhaul

BY PATRICK THIBODEAU
WASHINGTON

THE U.S. Department of State is seeking $273 million for a major IT upgrade to replace legacy systems, improve bandwidth and security, and give 30,000 desktops access to the Internet.

"It's a huge shot in the arm," said department CIO Fernando Burbano. The person leading the charge for the system improvements is Secretary of State Colin Powell, who recently testified in Congress about the need for the upgrade.

The State Department project may be the biggest IT request so far from the Bush administration to Congress. But the agency is also involved in a smaller project that may illustrate the administration's future direction regarding information sharing.

The 1998 embassy bombings in Kenya and Tanzania exposed weaknesses in the State Department's ability to quickly share information with other agencies with which it's involved, according to a study released after the bombing. Since then, 40 agencies have developed a pilot program that creates centralized systems for sharing information at overseas posts.

"Information superiority in international affairs is critical," said Burbano, and the goal of IT is "getting people the right information at the right time, regardless of where they are located." The price tag on the pilot program is about $17 million, but the full program could cost more than $200 million.

BURBANO: U.S. "information superiority . . . is critical."

Although this project began under the Clinton administration, the Bush administration has demonstrated its eagerness to make cross-agency information access a high priority. The White House is seeking $100 million from Congress in next year's budget for interagency initiatives.

If Congress approves the funding, the cross-agency effort will focus on projects that are "innovative" and "demonstrate a good business case," an administration official said.

The Bush administration has set three main goals for IT: to be "citizen-centric," results-oriented and market-based. That means expanding initiatives like electronic procurement, the official said.

Efforts along those lines are already under way.

At the U.S. Department of Veterans Affairs, Gary Krump, a deputy assistant secretary with responsibility for electronic government programs, said his organization is working toward seamless government-to-business transactions.

Speaking at last week's FOSE IT trade show here, Krump said that paper-based systems remain in use in his agency but that his department is developing technology to receive bids electronically and securely, as well as to process payments.

"We're working to maximize the effective use of e-government to improve our business practices," he said.

H-1B Applications Drop Nearly 50% in February

Some workers may be forced to go home

BY JULEKHA DASH

The number of applications for H-1B visas filed by U.S. companies on behalf of foreign workers dropped sharply last month as the economy slowed, according to numbers released last week by the U.S. Immigration and Naturalization Service (INS).

The INS said 16,000 H-1B applications were submitted last month, down from 30,000 in January. Both months' figures were less than the 53,000 applications filed in December, although that total is thought to have been inflated by companies rushing to beat a fee increase that took effect during the middle of that month.

Just one year ago, U.S. employers exhausted the number of visas allotted to foreign technology workers and pleaded with Congress to raise the cap for the current fiscal year.

The 16,000 applications filed last month are just half as many as were filed in February last year. INS officials didn't comment on the likely reasons for the decline, but Bill Keller, an analyst at Gartner Inc. in Stamford, Conn., said the change can be attributed to the slowing economy and recent layoffs by numerous technology vendors.

"As the layoffs trickle through the technology marketplace, there are a lot more Americans available for jobs" and less of a need to recruit from overseas, he said.

Many large employers of H-1B visa holders, such as Intel Corp., Cisco Systems Inc. and Motorola Inc., recently announced plans to scale back hiring. Earlier this month, Cisco announced that it would terminate 2,500 to 3,000 temporary and contract workers, which company spokesman Kent Jenkins confirmed would likely include H-1B workers.

Jenkins couldn't specify how many H-1B holders would be affected or when the cuts would be made. He said that Cisco typically has 300 H-1B applications in the pipeline.

The latest H-1B figures come two weeks after the Federal Reserve Board released a new version of its ongoing survey of business and economic conditions in the U.S. that indicated that employers in a half-dozen metropolitan areas such as Atlanta and Chicago are having an easier time finding qualified IT workers than before.

Critics of the H-1B system said the decline in demand for foreign workers after the government raised the cap highlights the flaws in the process for distributing worker visas.

Visa Count

Number of H-1B visas filed:
February 2001: **16,000**
January 2001: **30,000**
December 2000: **53,000**
Total number of visas filed or pending approval for 2001:
138,000
Remaining visas:
At least **57,000**

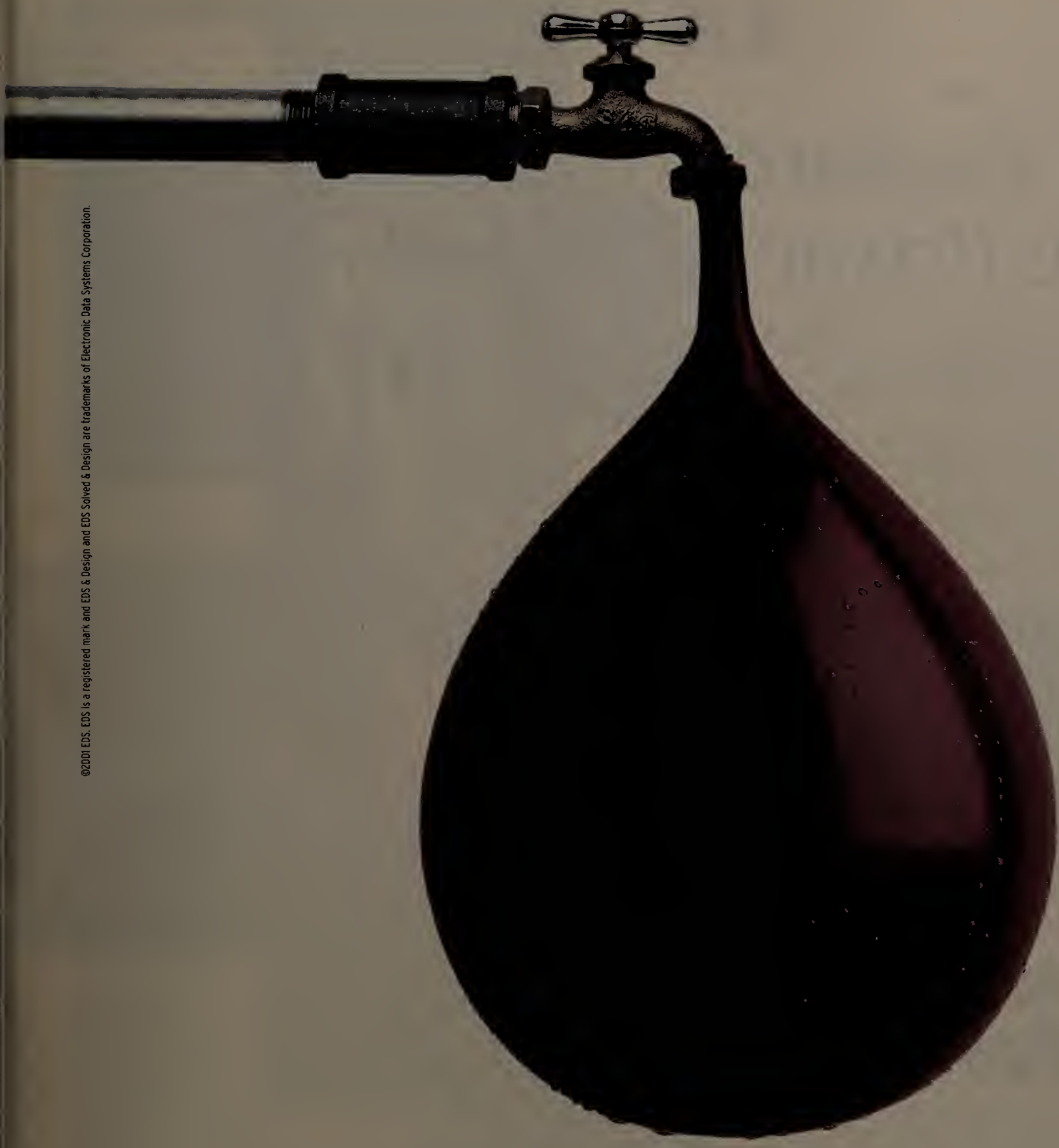
SOURCE: U.S. IMMIGRATION AND NATURALIZATION SERVICE

"I think what this shows is we simply don't have an immigration system that works well in the marketplace," said Paul Donnelly, an organizer at the Immigration Reform Coalition, a network of individuals and organizations that argues that the government should issue green cards, not temporary visas. "What happens to [H-1B holders] who are laid off?"

One 38-year-old IT consultant and H-1B holder, who asked that his name be withheld, said he fears that the consulting firm he works at might send him back to his native India when his current project ends in two months.

"I don't know what will happen if I don't get a position," he said. Since January, offers to work on other consulting projects have dried up, he said, even though he has skills in Oracle and Web development.

Vic Goel, a managing partner at immigration law firm Goel & Associates in Washington, blamed February's sharp drop in H-1B visa applications on system failures at the INS that prevented H-1B files from being filed in a timely manner. Goel said his firm was unable to file about 200 cases because of those delays.



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Internet Explorer 6.0 to Include Privacy Controls

But privacy advocates claim standards fail to give Internet users enough say

BY TODD R. WEISS

As proposed online privacy standards head toward adoption this year, Microsoft Corp. last week announced details on how its upcoming Internet Explorer 6.0 Web browser will incorporate the new privacy controls.

The latest version of the browser is based on specifications being finalized by the Platform for Privacy Preferences Project, known as P3P.

The new specifications aim to protect online privacy by giving Web surfers more control over the personally identifiable information that's collected about them online.

With Internet Explorer 6.0, which will be released in the second half of this year, users will be able to visit P3P-enabled Web sites and control the personally identifiable information that's collected about them that might be shared with third parties.

The information is stored in cookies, which are small files stored on users' hard drives that are used to log such data as sites that are visited and shopping preferences.

The browser's new privacy controls include a sliding bar that allows users to select one of five privacy settings ranging from a low setting that allows all cookies to be accepted to a high setting that rejects all cookies, a Microsoft spokesman said. The default position is the medium setting, which will reject cookies automatically if the site doesn't abide by the P3P standards.

But critics said they're not convinced that the new tools will better protect Internet users. Jason Catlett, president of Junkbusters Corp., a privacy watchdog group in Green Brook, N.J., said such Web-based controls aren't enough because Web users often don't know what to do with them.

"Consumers need enforceable rights" to allow them to review the personal information companies collect about them, Catlett said. Also, he said companies should be required by law to obtain permission to share personal information with third parties.

"Obviously, P3P has been an attempt to distract Congress from giving people real privacy rights" by causing lawmakers to avoid the matter in favor of technological controls, Catlett said.

Marc Rotenberg, executive director of the Electronic Privacy Information Center in Washington, said P3P continues to cause concern because it places the burden for maintaining privacy on Internet users and not on the companies that want to collect personal information.

"I think people need better legal and technical control over the use of their data," Rotenberg said.

Gathering Momentum

Lorrie Cranor, chairwoman of the World Wide Web Consortium working group that has been creating the P3P standards, said Microsoft is one of many organizations that has been incorporating the new tools into its Web sites and products.

Other P3P backers include AT&T Corp., Dulles, Va.-based America Online Inc. and the White House's Office of National Drug Control Policy, Cranor said. Their Web sites are being readied for when P3P controls are built into browsers and used by the masses, she said.

"It's a stable specification, and it's not likely to have any major changes at this point," Cranor said. The proposal is presently in a "candidate recommendation" status, meaning that it's finished but awaiting any last-minute adjustments, she added.

Last April, Microsoft announced that it was backing the P3P standard. Two months later, the company unveiled software tools to help make the P3P implementation possible.

In the meantime, at Netscape Communications Corp., development is continuing with a third-party vendor on P3P implementation in the company's Communicator browser suite, said spokeswoman Catherine Corre. No time line has been set for inclusion of the P3P tools for users, she said.

It's still early for the sites themselves as well.

At clothing retailer Lands' End Inc. in Dodgeville, Wis., no decisions have been made yet about the company's direction on P3P, said Andrea Stephenson, a Lands' End spokeswoman.

"We would certainly look at and support anything that would make our customers feel more secure," Stephenson said. Lands' End hasn't and won't sell information gathered online to any third parties, she said.

Ready and Waiting

Even though current browsers won't work with them, some sites have already built in the new P3P privacy specifications:

- U.S. Chamber of Commerce: **www.uschamber.com**
- Hewlett-Packard: **www.hp.co**
- IBM: **www.ibm.com**
- AT&T WorldNet: **www.att.net**

Microsoft Touts Smart Phones, Wireless Plans

Serving mobile users now 'Job 1'

BY BOB BREWIN
LAS VEGAS

Serving mobile users has become "Job 1" at Microsoft Corp., according to CEO Steve Ballmer, who last week outlined a broad strategy to provide enterprises and consumers with new mobile products and services. At the core of that initiative is the company's Stinger smart phone.

Ballmer, speaking here at the Cellular Telecommunications & Internet Association's annual conference, said computer users have adopted a "mobile data lifestyle," which requires a focus on delivering the same content to portable devices as that accessible by desktops.

Stinger phones, expected to be available later this year, will allow the 68 million enterprise users of Microsoft Outlook e-mail software to access messages from behind a corporate firewall as easily as from their desktops, Ballmer said.

Microsoft expects that by the end of this year, its hardware partners will start offering in U.S. retail outlets phones based on the Stinger software it unveiled last year, Ballmer said. Microsoft recently signed a deal with High Tech Computer Corp. in Taiwan to develop and market Stinger phones, and has already signed agreements with Samsung Electronics Co. in South Korea, Mitsubishi Electric Corp. in Tokyo and Sendo Ltd. in Birmingham, England.

Mitsubishi will also start selling phones equipped with Microsoft Mobile Explorer for use on U.S. cell phone networks operating on the Global System for Mobile Communications (GSM) protocol in the first quarter of next year, Ballmer said.

Mitsubishi currently sells GSM phones with Mobile Explorer in Europe, where the phones operate in frequency bands that are different from those used by U.S. networks. Mobile Explorer supports a wide range of wireless interfaces and protocols, including Wireless Application Protocol, iMode and HTML.

Microsoft also introduced a new mobile pager developed by Motorola Inc. in Schaumburg, Ill. The device is capable of accessing MSN Messenger and Hotmail services.

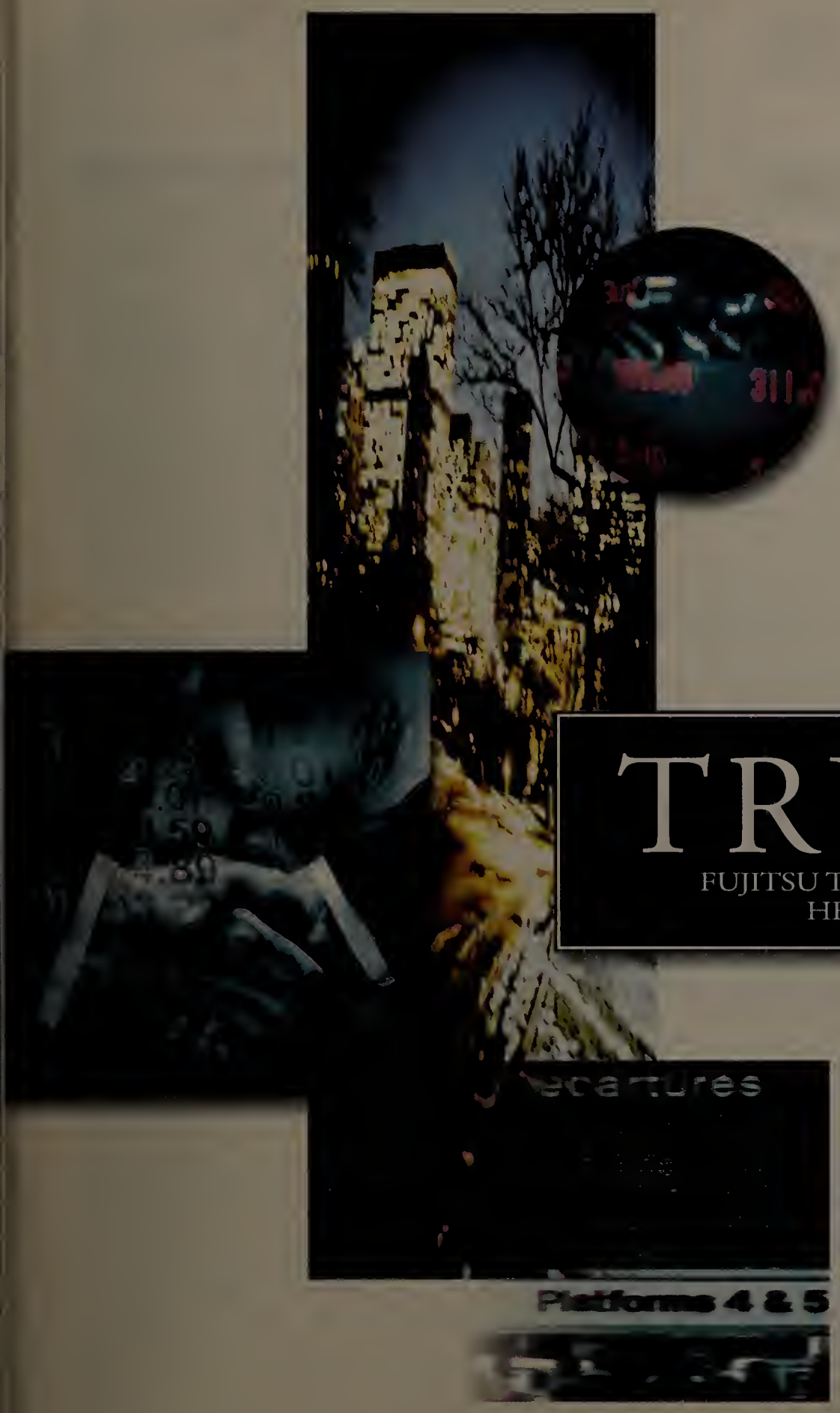
> This is an enterprise fight, and it's Microsoft's to lose.
>
> BOB EGAN, ANALYST, GARTNER INC.

Ballmer explained that these new products and services tie in with the company's .Net strategy to allow easy exchange of information from one kind of device and connection — wired or wireless — to another. Three to five years from now, the distinctions between the wired and wireless Internet will disappear, Ballmer predicted.

"It's all one Internet," he said. "We want [information] to flow seamlessly from one service mode to another."

Bob Egan, an analyst at Gartner Inc. in Stamford, Conn., said Microsoft has taken a very "aggressive stance" in the mobile and wireless arena because of competition ranging from pager companies such as Research in Motion Ltd. to personal digital assistant manufacturers such as Palm Inc. in Santa Clara, Calif., and other smart phone companies such as Symbian Ltd. in London.

"This is an enterprise fight, and it's Microsoft's to lose," said Egan.



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BRIEFS

CA to Offer Wireless

Computer Associates International Inc. in Islandia, N.Y., last week said it will deliver middleware and management applications that will support wireless users. CA has teamed with wireless products and services vendors to offer management, security and back-end connectivity for mobile users of customer relationship management, enterprise resource planning and other applications. The wireless management software is available immediately. Pricing will depend on the product and customization, CA said.

GM Autobytel Pilot to Launch in Washington

General Motors Corp. last week announced that its 90-day pilot test using Autobytel.com Inc. will take place in the nation's capital. GM plans to offer online sales of its Chevrolet vehicle line through 22 dealers starting May 1. Shoppers will be offered a "no-haggle e-price" that will be determined by the participating dealers and posted on the Autobytel site.

Intel Speeds Its Xeon

Intel Corp. beefed up its offerings for the server market last week with the announcement that it has started shipping a 900-MHz version of its Pentium III Xeon processor equipped with a 2MB Level 2 cache. Dell Computer Corp. announced the immediate availability of PowerEdge servers incorporating the new chip. Other vendors, including Gateway Inc. and IBM, were also expected to announce systems by press time.

Short Takes

Following the lead of fellow online content purveyor BRITANNICA.COM INC., SALON.COM in San Francisco last week said it will offer a paid subscription service to bolster flagging Internet advertising revenue. . . . MEDSCAPE INC., a health care vendor in Hillsboro, Ore., will pay $2 million to MEDQUIST TRANSCRIPTION LTD. in Marlton, N.J., to settle a lawsuit alleging that one of the company's subsidiaries misappropriated MedQuist trade secrets. Medscape will pay the amount through an escrow of shares.

IBM Adds Supercomputer Features to Linux Servers

Clustering aims for savings, speed

BY TODD R. WEISS

IBM last week announced plans to bring some of its most successful and powerful supercomputer clustering and file management software technologies to its Linux rack-mounted server line.

The new features were previously available only to AIX proprietary Unix operating systems and SP supercomputer customers, said Dave Gelardi, director of Deep Computing at IBM.

"It's another drumbeat in our commitment to our Linux initiatives," Gelardi said, referring to IBM CEO and President Louis V. Gerstner's announcement in December that IBM will spend $1 billion this year on Linux development.

Jason Katz, CEO and founder of PalTalk Software Inc., an instant messenger software firm in New York that serves 30,000 users daily, said the new SP-inspired features could help lessen some of his systems management challenges.

He now has two IBM M80 servers, six Intel platform Linux machines and nine Microsoft Windows NT servers. He said that with the new IBM software, he hopes to save money by managing all of his AIX and Linux machines through one console.

Software Moving to Linux

Parallel system support programs, cluster management software and general parallel file system software, which have been around since 1993, are being brought over to Linux from the SP operating system. Both systems will also receive enhancements in AIX.

With the new features, IBM's Linux users will be able to remotely power on or off individual nodes in a cluster, Gelardi said. They will also be able to add user identifications from a single console all at once rather than individually.

Code-named Blue Hammer, the Linux version of the eServers will enable clusters of up to 32 two-way IBM eServer x330 Intel-based machines.

The Unix version will cluster as many as 32 two- to eight-way IBM M80 or one- to six-way IBM H80 servers running the AIX operating system.

The Unix servers with the new features will be available at the end of the month; prices will start at $32,000 per node, including software. The Linux versions will be available in the third quarter; pricing hasn't been established yet.

Also new: the midrange M80s and H80s can now be clustered with large-scale IBM eServer p680 or S80 servers, according to the company. The M80, H80, S80 and p680 can also be directly attached to SP supercomputers.

Dan Kusnetzky, an analyst at IDC in Framingham, Mass., said today's announcement is "another proof point in IBM's commitment to Linux. They're starting to bring over their crown jewels from AIX."

Pat Bowman, director of technology operations at Mediaprise Inc., a hosted solutions provider in Austin, Texas, said he hopes to increase transaction speed for customers using the new software on his two M80 servers.

"With this clustering technology, we think we can resolve any kinds of throughput [problems] faster," he said. ◗

AT A GLANCE

Linux Boost

IBM's additions to its Linux line include:

- Parallel system support programs, cluster management software and general parallel file system support, previously available only to IBM's AIX Unix and SP supercomputer customers.
- New features for the Unix servers that will be available at month's end. Prices start at $32,000 per node, including software.
- Upgraded Linux servers will be available in the third quarter. Pricing to be determined.

Mainframe Features Added to Sun Boxes

Some capabilities not ready till year's end

BY JAIKUMAR VIJAYAN
NEW YORK

SUN MICROSYSTEMS Inc.'s new midrange servers announced last week have several features found previously only on mainframe-class systems, users and analysts said.

But users might want to wait until the end of the year, when some of the most crucial capabilities become widely available, analysts added.

At a crowded event here last week, Sun Chairman and CEO Scott McNealy took the wraps off of four new Sunfire servers based on the company's 64-bit UltraSPARC III chip.

The servers, which Sun collectively calls its Midframe series, range from a two-processor system starting at around $73,000 to a 24-processor server that will cost more than $1 million. All the new servers boast capabilities once reserved for mainframes, but they're not yet available on the machines Sun is producing in volume now.

"If everything were shipping right now, Sun would be the first to have many of these features" on midrange Unix servers, said Tony Iams, an analyst at D.H. Brown Associates Inc. in Port Chester, N.Y.

But it's going to take at least until the end of the year before the new machines will fully support features such as the dynamic partitioning and hot-swappable capabilities Sun announced, he cautioned.

Core among the technologies supported on the new servers are Sun's Fireplane interconnect for eliminating single points of hardware failure, dynamic partitioning and server resizing, capacity-on-demand, total hardware redundancy, hot CPU and memory upgrades, online expansion and serviceability.

Capabilities such as these are crucial for delivering the near-continuous uptime that's required for many of today's applications, said Scott Medlock, chief operating officer at Commercial Open Systems Inc., an application hosting service in Kansas City, Mo.

The company schedules a few hours each week for server maintenance to update software, apply patches and perform other tasks. The built-in redundancy and hot-swappable components on Sun's new servers means "a lot of this scheduled downtime will simply go away," Medlock said.

Sun's late delivery of key features means that rivals have a chance to catch up by the time Sun's new systems integrate all the capabilities the company has announced, Iams said. Both IBM and Hewlett-Packard Co. are scheduled to refresh their midrange servers this year.

"These are the kind of products that will light up the next round of server spending," predicted McNealy, who used the occasion to take broad swipes at rivals IBM and HP; Sun's market lead has recently been increasing over both. ◗

Midframe Models

Sun's four new servers:

- Support eight to **24 750-MHz** UltraSPARC III chips
- Have from **64GB** of memory to 192GB
- Boast maximum storage capacity of **70TB**
- Have sustained memory bandwidth ranging from 4.8GB/sec. to **9.6GB/sec.**
- Have sustained **I/O bandwidth** from 2.4GB/sec. to 9.6GB/sec.
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Continued from page 1

VeriSign

Digital certificates are used to prove the origin and authenticity of software programs and data on the Internet, a key requirement for users who are downloading patches or software updates. VeriSign and rival certificate authorities generate and digitally sign such certificates after first verifying the identity of the individual or organization that submitted the request.

"I don't like it," Josh Turiel, MIS manager at Holyoke Mutual Insurance Co. in Salem, Mass., said of the situation. His company has policies that prohibit any e-mail attachments from getting into the corporate network. And only network and systems administrators have the authority to install or download anything. But such measures may not be enough to protect against all the means of attack possible with the theft of these certificates, Turiel said.

"The obvious concern is that this makes it easier for someone to slip something through a weak link" that may have been overlooked until now, he said.

There's no telling what the holder of the two certificates might do with them, said Russ Cooper, an analyst at security consulting firm TruSecure Corp. in Reston, Va. But it's possible they could be used to sign a virtually unlimited amount of malicious code, he warned. "There's no mechanism to undo what has happened other than Microsoft spending money and time coming up with an update," he said.

The lapse raises serious questions about VeriSign's practices in issuing certificates, Cooper added. Class 3 certificates, the kind that were issued, are supposed to be issued only after the most stringent measures have been applied to ensure that the identity of the applicant is valid. "Obviously, that did not happen," he said. "Something broke down."

VeriSign's alert said the company is "taking active steps to augment technical controls and manual screening procedures around the vetting process of code-signing digital certificates." Mahi deSilva, a VeriSign vice president and general manager, blamed the snafu on human error and said the company's automated and manual processes for examining certificate applications and identifying the individuals who submit them had held up.

In fact, deSilva said during an interview, it was because VeriSign's process functioned properly that the company was able to discover the fraud. The person to whom VeriSign issued the certificates "was able to get through the screening process as a bona fide representative of Microsoft only because of human error," he said.

The certificates were erroneously issued in late January by Mountain View, Calif.-based VeriSign to an individual who claimed to be a Microsoft employee. The certificates "are of a type that can be used to digitally sign programs, including ActiveX controls and Office macros," thus appearing to make it look like the programs are bona fide Microsoft products, the advisory stated.

An attacker armed with the certificates could potentially host a malicious program on a Web site and then try to fool users into installing and running the software, Microsoft said. The attacker could also choose to package the malicious code as an ActiveX control, an Office document with macros or other executable content.

VeriSign has revoked the fraudulent certificates and included them in its Certification Revocation List. But Microsoft said the list can't be automatically downloaded by Web browsers, and that has forced the company to develop an operating system update with information about the revoked certificates. Microsoft said the operating system updates aren't available yet "because of the large number of platforms that must be tested." ◗

Closing the Holes

To guard against rogue programs using the phony certificate, Microsoft says, Windows users should:

- Install a security patch for Outlook.
- Install a confirmation tool that forces Web pages to request permission before opening Office documents.
- Visually inspect the digital certificates cited in any warning boxes that pop up during a download process. The fraudulent certificates were issued Jan. 29 and 30. Microsoft said it didn't receive any bona fide certificates on either of those days.

Continued from page 1

ebXML

last month agreed to incorporate the transport sequence for the Microsoft-backed Simple Object Access Protocol (SOAP), making it far easier for businesses to swap information. SOAP is Microsoft's sole contribution to date.

The addition of SOAP is "a tremendous plus for us," said Neal Smith, an IT architect at Chevron Corp. in San Francisco. "We have a lot of Microsoft technology, and we like anything that makes it easier for us to use the stuff we have." He said he hopes ebXML will set basic standards that oil industry exchanges can then build upon.

"Ideally, you can just take the parts you need and leave out the ones you don't, without disrupting anything," he said.

T. Kyle Quinn, director of e-business information systems at The Boeing Co. in Seattle, has also been involved in the ebXML standard. He argued that users must steer the standard's development.

"The Unix/Windows debate is still alive, and one of the things we want to do is drive the standards discussion to make it go away," he said. "The point of e-commerce is we're all supposed to be working together, and it's crucial to keep the standards open."

Most of the work is now done. What remains to be seen is how the public will react.

"The nut of it is, will they be able to communicate with all types of legacy systems?" said Peter Urban, an analyst at Boston-based AMR Research Inc. "They can't redefine the whole world, and companies increasingly hate to be caged by new technology."

Smith also underscored the need to reach the market soon, as companies are already racing into the business-to-business space.

"Businesses aren't going to wait," Smith said. "They're going to find a vendor with a product they like, or they'll build something themselves."

Quinn said a solid trading standard could spur online transactions.

"What we haven't had is a solid road map for how to do this, and a lot of companies want to see that before they change the way they do business," he said. ◗

The latest specifications are scheduled to be posted today at www.ebxml.org, and comments can be made through that site.

B2B Panacea?

ebXML claims to deliver:

- **Defined business** processes and their associated messages and content.
- **Company profiles,** including corporate e-business capabilities.
- **Defined trading** partner agreements.
- **A uniform** transport layer.
- **Mission-critical** security.

UN to Devise Strategy for Global E-Security

Delegates will discuss privacy issues, common legal framework at conference

BY DAN VERTON

Delegates from the United Nations' 189 member countries this week will meet with representatives from the U.S. high-tech industry to devise new strategies for dealing with Internet crime and global e-commerce security requirements.

However, to ensure a coherent global strategy, world leaders must be better educated about the need for global security standards and the threat that cybercrime poses to the global economy, said Percy Mangoaela, the UN ambassador from Lesotho.

"We want to sensitize diplomats to the importance of the implications of IT so that they are equipped to deal with the issues," said Mangoaela, who is chairman of the UN Working Group on Informatics and one of hundreds of representatives scheduled to attend this week's Global InfoSec 2001 conference. The conference, which will take place at UN headquarters in New York, is cosponsored by AIT Global Inc., a worldwide association of IT professionals based in Kings Park, N.Y.

However, the working group is an advisory body and can only make recommendations to other UN organizations on what steps to take.

One of the most pressing issues facing the global community is finding common ground on a legal framework for dealing with cybercrime, said Mangoaela. "It is something that has not yet been attempted, so many people don't feel confident in their expertise," he said. "Sooner or later, it will have to be dealt with." That would give authorities a common way to deal with Internet crimes perpetrated in one country against systems in another.

Delegates attending the conference also plan to take up topics of personal security and privacy on the Internet. The European Union has clearly spelled out what the challenges are when it comes to personal privacy, said David Lowe, head of secretariat for a European Parliament committee.

"It seems to me to be imperative to boost the power and authority of parliamentary oversight committees to at least the level prevailing in the U.S. Congress," said Lowe. "In many European countries, such things are often inadequate or nonexistent." ◗

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of us, in one way or
another, as we progress
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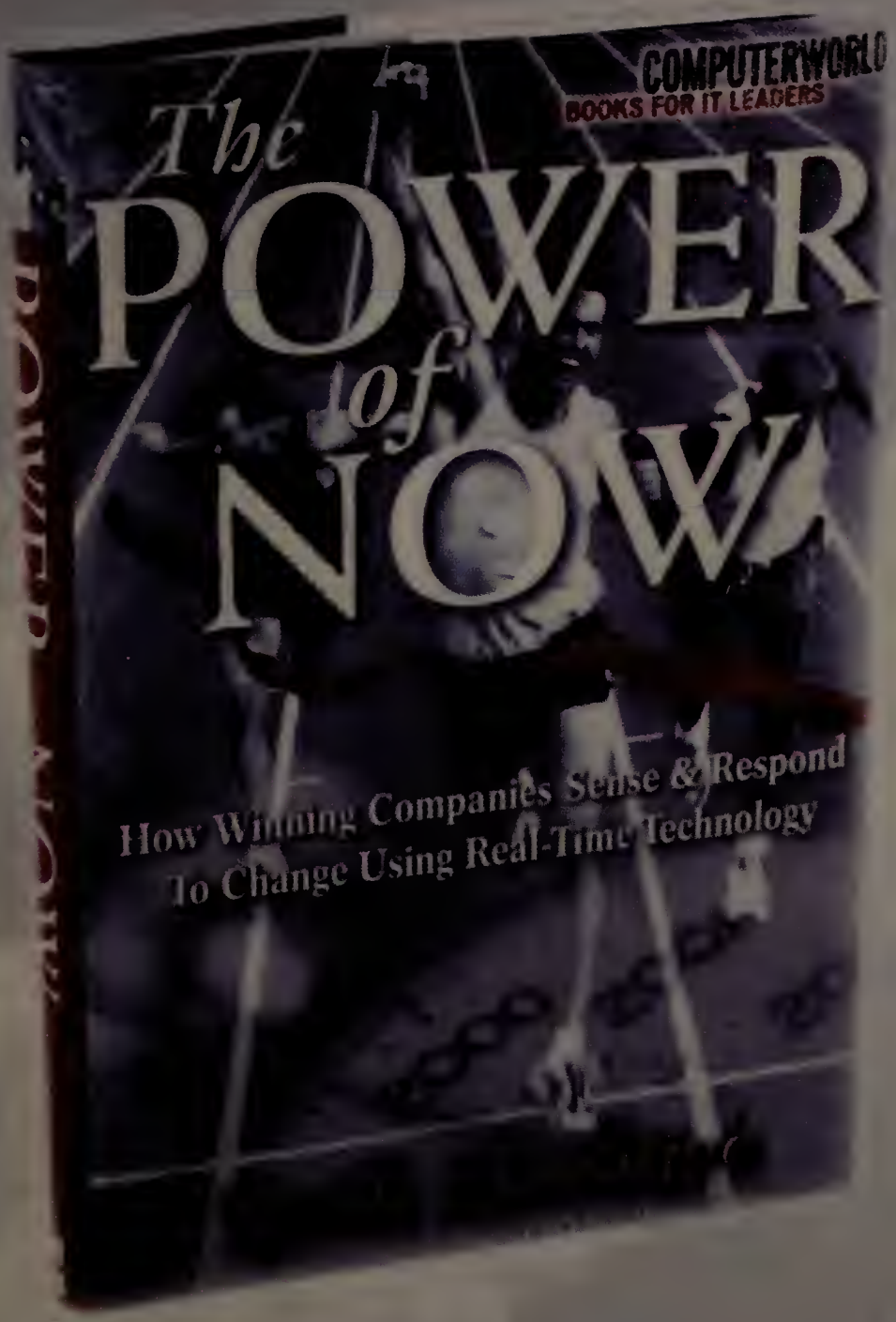
about technology,
and about success in an
increasingly global
networked society"

-Scott McNealy, CEO, Sun Microsystems



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relies upon the
collaboration of
business units
more real time intelligence
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Ranadivé outlines why
and how we must
reformulate our business
and IT strategies to
compete in our
increasingly global and
networked society."

-Eric Benhamou, CEO, 3Com

QUICK READ

IN THE DIGITAL ECONOMY YOU NEED ONLY REMEMBER TWO THINGS:

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Success in e-business requires real-time response. The winners grab opportunities fast or watch them vanish in Internet time. They use fast dependable, proactive information exchange. Reliable e-business tools that allow customers, sales teams and supply chains to receive critical information. Immediately, as soon as transactions occur. The "real-time, event-driven" vision that enabled these technology breakthroughs is explained by TIBCO's President Vivek Ranadivé in his new book *The Power of Now*. It's part of the Computerworld Books for IT Leaders series. So think fast, pick it up at any major bookstore or on *Computerworld.com*.

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POINT OF VIEW

Agility

As applied to the computer industry, the concept of agility takes on a new meaning. Working together, Compaq and Microsoft are constantly striving to embody that concept.
www.windows2000advantage.com/pov/03-19-01_agility.asp

TECH EDGE

Windows 2000 enhances storage management, disaster recovery

Microsoft Windows 2000 features that fine-tune how information is stored, distributed, backed up and recovered in an enterprise-class data center are making life easier for companies such as EDS.
www.windows2000advantage.com/tech_edge/02-05-01_disk_disaster.asp

Q & A

Aberdeen Group analyst says Windows 2000 ready for reliability prime time

Tom Manter, research director at the Aberdeen Group, finds that dot-com and enterprise computing users increasingly choose Microsoft Windows 2000 over Windows alternatives.
www.windows2000advantage.com/qa/01-29-01_aberdeen_reliability.asp

COLUMNS

The Windows 2000 tide is turning

After a rocky beginning, Microsoft Windows 2000 is coming around. How do we know? Because our readers are saying so.
www.windows2000advantage.com/columns/01-08-01_turning.asp

CASE STUDIES

RadioShack, Starbucks blazing Commerce Server 2000 trail

Before Microsoft's Commerce Server 2000 hit the street, it went through an extended beta testing trial with top-tier companies. Two of them, RadioShack.com and Starbucks used it to accomplish specific e-commerce goals.
www.windows2000advantage.com/case_studies/01-22-01_commerce.asp

ROUNDTABLE >

Government users tread different migration path to Windows 2000

A recent interview with two IT professionals from the office of Minnesota's Hennepin County, in which Minneapolis is located, reveals that implementing Microsoft Windows 2000 in a government agency can be tricky – not because of the operating system, but because government agencies do things differently than their private sector counterparts.

For the full story, visit: windows2000advantage.com/roundtables/03-19-01_govt.asp

FEATURES >

Part II: Compaq's massive, methodical Windows 2000 migration

At the start of the new year, Compaq's corporate-wide Microsoft Windows 2000 migration project was making noteworthy progress. The new infrastructure, based on Windows 2000 and Active Directory, was in place at almost all of Compaq's big corporate sites, and about a third of all user accounts were migrated. Completion of the infrastructure is expected early in the second quarter of this year.

For the full story, visit: www.windows2000advantage.com/features/02-19-01_massive_migration.asp

FEATURES >

Internet Security and Acceleration Server 2000 is a big improvement over Proxy Server 2.0

Microsoft's Internet Security and Acceleration Server 2000 (ISA Server 2000) is an enterprise-ready multi-layer firewall and high-performance Web caching server. As part of the growing family of Microsoft .Net servers, ISA Server 2000 takes full advantage of the management and security features built into Windows 2000. It is also integrated with the other members of the .Net Server family.

For the full story, visit: www.windows2000advantage.com/features/02-12-01_acceleration_server.asp

www.Windows2000Advantage.com/300

E 2000

ROUNDTABLE >

Windows 2000 users home in on desktop issues

At a recent Microsoft Desktop Deployment conference held in Denver, Colo., three attendees met with Windows 2000 Advantage managing editor, Stefanie McCann, to discuss deploying Microsoft Windows 2000 on the desktop. The enthusiastic participants quickly got down to business and said how impressed they were with the operating system's, security, and its overall reliability. They also lauded other features, including portability, Active Directory and power management. The participants of the roundtable included: Travis Sanders and Donald Bizelli, systems analysts for WorldCom in Colorado Springs, Colo. and Frank Clark, CEO, Design Enterprises, Denver, Colo. and independent computer consultant.

Q: Did the conference deal mostly with deploying Windows 2000 on the desktop, or did you get into server deployment?

Sanders: We touched on server deployment just a little bit.

Q: When are your companies going to start migrating to Windows 2000?

Bizelli: There are rumors that we may start migrating as early as April.

Q: Is that just the desktop or server and desktop?

Bizelli: That is going to be the desktops to start with and then we'll migrate the servers.

Clark: For me it varies because the different companies that I consult with. Some are already on Windows 2000, some want to upgrade and others want to stay with Windows 98. What I do is a lot more of the desktop-type stuff. I work with SOHO's up to medium-sized businesses. And most of them buy for the desktop, especially the small office, home offices. I don't see a need for servers in that space. But the small and medium-sized businesses are seeing more of a need for client/server networks versus just the pure network.

For the full story, visit:www.windows2000advantage.com/roundtables/02-12-01_users.asp

QUOTE OF THE WEEK >

"Everything I have touched, I have installed Windows 2000 on and I've beat the heck out of it. It is great."

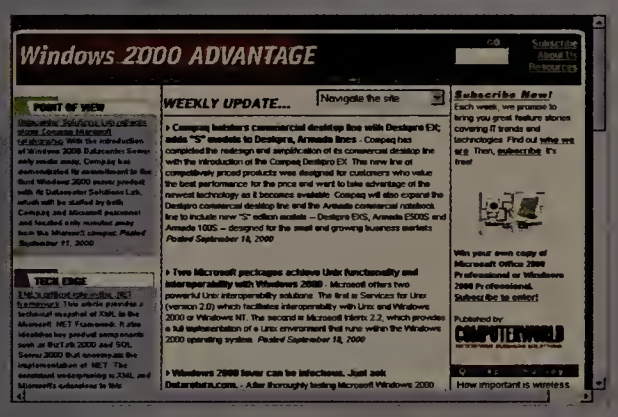
— Travis Sanders
systems analyst
WorldCom
Colorado Springs, Colo.

What is Windows 2000 Advantage?

The mission of Windows 2000 Advantage is to become your primary source of timely, useful information for planning and implementing Microsoft Windows 2000 on Compaq solutions and services.

Windows 2000 Advantage is a Web-only magazine because that lets us bring you, the IT leader, great stories that apply to your day-to-day work. We'll keep you up to date with a weekly e-mail alert so you don't miss a thing.

Windows 2000 Advantage is underwritten by Microsoft and Compaq. Its charter is to address the issues that most concern IT managers charged with keeping their companies on top of the latest and best solutions Microsoft and Compaq have to offer. Toward that goal, we offer a wide range of stories including case studies, columns and news to provide you with information you can't find anywhere else.



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QUICKPOLL >

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ENTERPRISE BUSINESS SOLUTIONS

Is Server Consolidation the Answer?

Senior executives are demanding information systems that position the company for e-business growth. Users are demanding service levels, reliability and response times that meet e-business requirements.

But there's a problem. "The far-flung servers that have sprung up across the enterprise, often for point applications such as e-mail, can't support expected growth or user demand," says Neil Ross, Program Director, Unisys Consolidation Solutions. "Supporting all the servers is getting expensive while consuming increasingly scarce IT personnel."

For a growing number of organizations, the answer is server consolidation. The benefits of a well-crafted consolidation strategy are many, including:

- Delivery of consistently higher service levels
- Positioning for IT growth
- Simpler, more efficient system administration
- More efficient use of IT labor
- Lower total cost of ownership

Consolidation is a multi-faceted thing. It can involve consolidation of common processes and management. It can involve placing all servers in one room for more efficient administration. Or it can involve replacing several small servers with larger ones, like the Unisys ES7000. In all cases, the best solutions are services-oriented.

Get more information on server consolidation at a special interactive Webcast on May 4, 2001 at 10 a.m. EST. To register, visit **www.unisys.com/e-biz/webcasts.**

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We have a head for e-business.

Tax Portals Could Help Lower Costs

Some firms aren't using IT for tax planning

BY MARIA TROMBLY

HISTORICALLY, corporate tax departments have often been among the last groups in many companies to see big boosts in IT investments. That's because those areas are often viewed as fixed costs, and the tax preparation process itself is labor-intensive.

But that's beginning to change. Some companies have started to leverage IT to help reduce Uncle Sam's bite by reducing tax preparation time and improving planning.

For instance, some firms are starting to automate their entire tax processes, from collecting data in a central repository to using sophisticated computer modeling software to simulate different scenarios for minimizing tax burdens.

"We've got members from across the spectrum looking to use technology to ease their tax-related burdens — making payments, collecting records, even filing returns," said Timothy McCormally, general counsel and director of tax affairs at the Washington-based Tax Executives Institute, which represents tax professionals at 2,800 U.S. firms.

But those efforts haven't been easy. "One of the biggest challenges that companies face is the ability to access data from prior years when they move to relational databases and ERP systems," said McCormally.

For example, at Cooperative of American Physicians Inc./Mutual Protection Trust, a Los Angeles-based insurance firm that provides malpractice coverage to doctors, accountants continue to manually re-enter tax data into spreadsheets or cut and paste tax information from data screens in different systems. "We do it the old-fashioned way," said David Preimesberger, the company's chief financial officer.

Tax departments are often a low priority among corporate departments that get IT funding, said Bob Huff, a senior manager at KPMG Consulting Inc. in McLean, Va. Ironically, IT investments elsewhere in the company can make tax planning more difficult.

"One of the common omissions is that when you change systems from a legacy accounting system to a new [ERP system], you frequently forget to do the right things that would support a tax audit that may be auditing three or four years back," said Jim Hatch, CIO at Pactiv Corp. in Lake Forest, Ill., the maker of Hefty trash bags and other consumer and business products. "That complicates life for the tax people."

That can also lead to more serious consequences. For example, companies that fail to align their enterprise resource planning (ERP) initiatives with tax planning may end up paying more in taxes than they need to, according to Steven Rainey, a partner at New York-based KPMG LLP's electronic tax solutions practice.

One large company that KPMG Consulting is working with has estimated that the use of automated tools to help it more accurately assess its tax rates could help it save $120 million per year, said Huff. (KPMG Consulting was spun off from KPMG LLP last month.)

There are other steps that companies can take. For instance, KPMG Consulting is currently working with six large corporations to develop internal tax portals — central warehouses of tax-related data that allow companies to collect tax data in real time and use it to make planning decisions.

According to Huff, a typical KPMG Consulting tax portal project takes six to 12 months. But most tax portals can be operational within 90 days, with the most critical functionality in place, he said. Costs to develop and deploy these tax portals can range from $250,000 to a hefty $8 million, said Huff. But the return on investment (ROI) makes it worthwhile, he added. "Even with the most conservative numbers, the ROI easily approaches 350% with a payback period of a little over a year," said Huff.

The savings can be achieved in several ways, said Rainey, including a reduction in the tax-compliance cycle time — the time it takes to gather information, summarize it and collate it. ◗

Building a Tax Portal

How to plan a tax portal:

1. **Decide what extraction tool to use to retrieve data from within company data sources.** Decide on a consistent format for the data and how often it should be retrieved.
2. **Be aware that ERP systems can be tricky,** especially if they were set up without considering tax implications. Often, the information in an ERP system isn't as complete as it needs to be for tax purposes and has to be appropriately packaged for tax planning.
3. **Decide on a data model.** Understand the relationships between your company's organizational structure and legal structure.
4. **Decide on what reports and analysis will be needed.** Determine whether there's in-house expertise to create them.
5. **Determine if there are off-the-shelf packages that can be integrated into your portal** and if they are sophisticated enough for planning purposes.
6. **Create a Web infrastructure.** This should include customized interfaces for different people who will be accessing the portal, a collaborative working environment and a security model.

SOURCE: KPMG CONSULTING INC., MCLEAN, VA.

E-Filing on the Rise

The Internal Revenue Service processed a record number of electronic payments from businesses last year, and the 2001 tax season started off with a bang. The Electronic Federal Tax Payment System (EFTPS), which allows businesses to make all of their federal tax payments by phone, computer or through their banks, processed more than 63 million payments last year, a 14% increase over 1999. That amounted to more than $1.5 trillion in tax receipts.

That trend continued into January; more than 7.5 million electronic transactions were processed from businesses that month. More than 3 million businesses are enrolled in the system, according to an IRS spokesman. Part of the growth can be attributed to the way the biggest corporate taxpayers – those paying $200,000 or more a year to the federal government – are required to file electronically, with a 10% penalty if they continue to file using paper deposit coupons.

According to Terence Lutes, director of the IRS's Electronic Tax Administration, the EFTPS system is 99.9% accurate and capable of handling the growing volume of transactions. Still, some tax professionals have criticized the IRS for not moving fast enough in modernizing its systems.

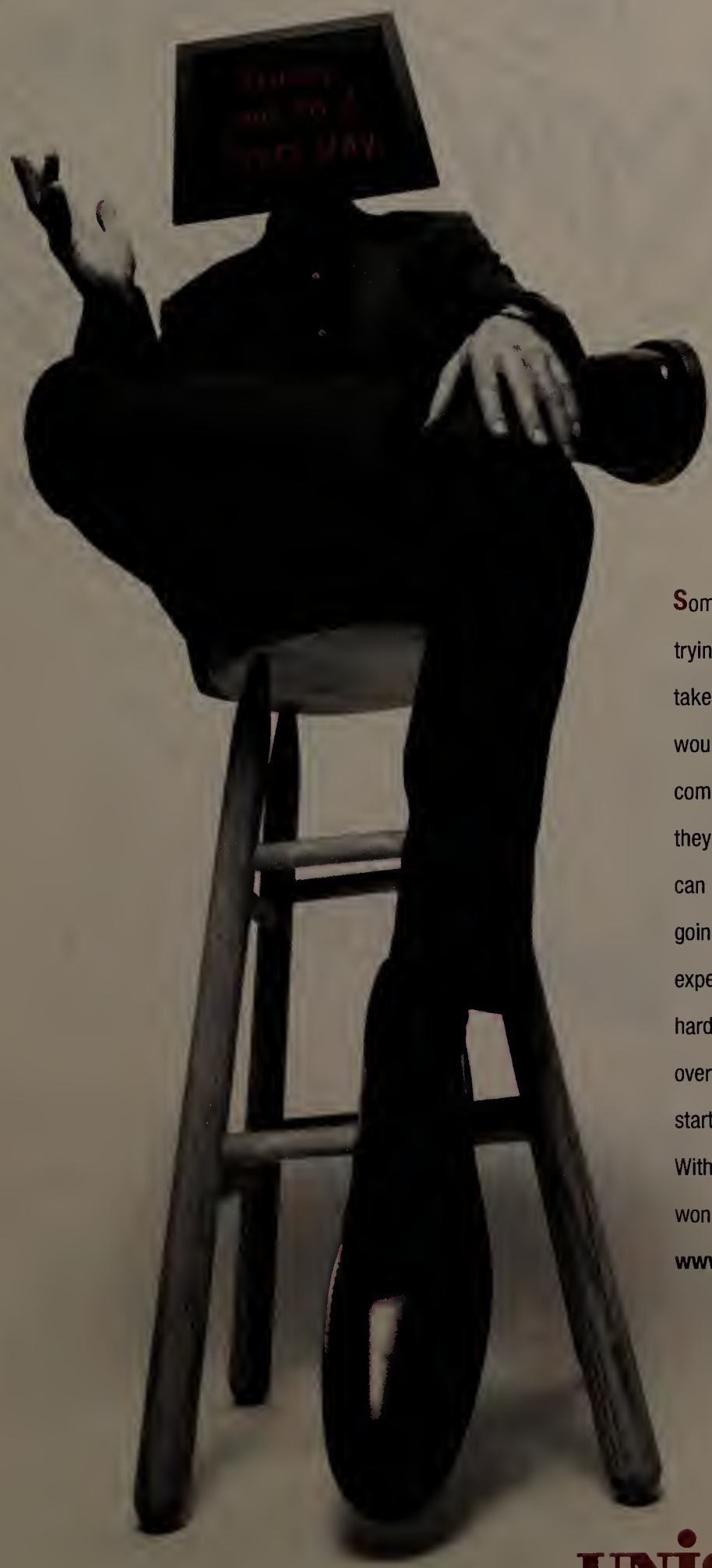
In a report issued by the IRS itself last fall, the agency complained about problems with its computer systems. "The U.S. tax administration system, which collects $2 trillion in revenues each year, is critically dependent on a collection of obsolete computer systems developed by the IRS over the last 35 years," the report said. "These systems are fundamentally deficient. They do not and cannot allow the IRS to administer the nation's tax system and provide essential service to taxpayers at an acceptable level of efficiency, effectiveness and risk."

The tax administration system includes a network of 40 mainframe computers, 871 midrange computers, more than 100,000 PCs, 2,779 vendor-supplied software products and more than 50 million lines of IRS-maintained computer code. However, the federal government is investing heavily to modernize these systems. As of September, approximately $250 million had been allocated for the IRS Business Systems Modernization Program, according to an IRS spokesman.

For more information, visit *www.irs.gov/elec_svs/eftps.html.*

– Maria Trombly

They say, in e-business, it takes forever to unify the past with the future.



Some e-business consultants will tell you trying to integrate your legacy systems takes too long and costs too much. They would have you scrap what exists and commit to whatever vision of the future they're selling that day. Unisys people can unify what you have with what you're going to need, using our decades of experience, ingenuity, and plain old hard work. And we do it every day, in over 100 countries. Today is the day to start unifying your past with the future. With Unisys people there to help, it won't take forever. Visit our website at **www.aheadforebusiness.com.**

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Earlier Patent Could Potentially Play Role in Amazon Dispute

BY TODD R. WEISS

Does online bookseller Barnesandnoble.com Inc. have the smoking gun it needs to defend itself against a lawsuit filed by rival Amazon.com Inc. over alleged infringement on a controversial patent on one-click shopping technology?

That's the question currently facing both companies. Two weeks ago, a Web site that lets firms offer cash bounties for information to use in patent disputes disclosed that a $10,000 reward is being paid in return for so-called prior art that could potentially have a bearing on the case between Barnesandnoble.com and Seattle-based Amazon. The money will be split among three people who contributed patent research seen as pertinent to the case.

But it remains unclear whether the newly uncovered information, which is said to point to the possible existence of an earlier patent similar to the one held by Amazon, will actually be useful to New York-based Barnesandnoble.com when the infringement suit goes to trial later this year.

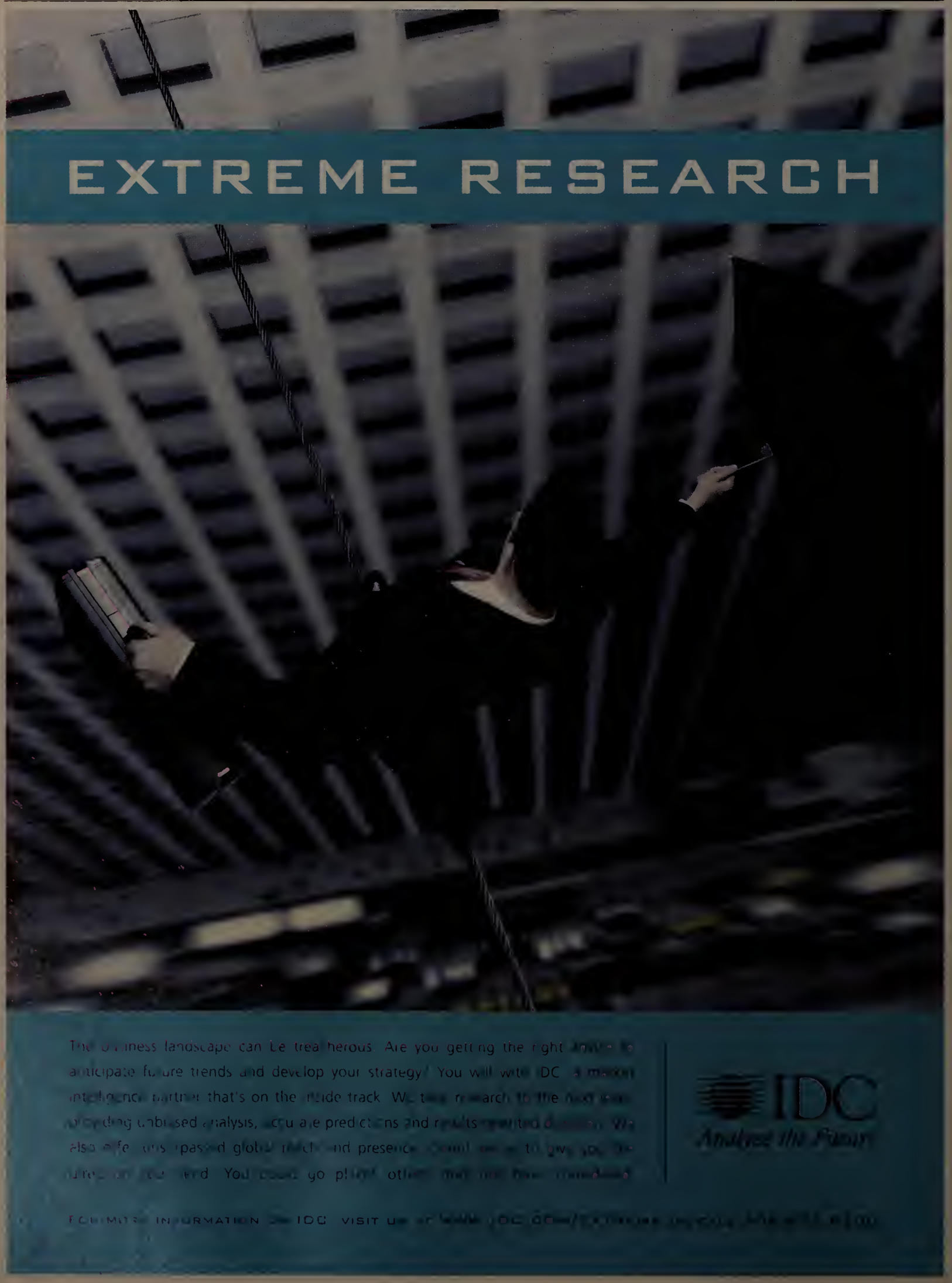
"This may play a role in the court case, or it may not," said Tim O'Reilly, founder of Sebastopol, Calif.-based computer book publisher O'Reilly & Associates Inc. and an investor in the patent-search Web site that was launched last fall by BountyQuest Corp.

O'Reilly personally put up the $10,000 reward for prior art related to the patent held by Amazon, which covers technology that lets online shoppers place multiple orders without having to re-enter their billing and shipping data. After the retailer was awarded the patent, O'Reilly and others argued that Amazon didn't invent the one-click process and said that it was merely the first company to register a patent on the technology.

Amazon received the patent in October 1999 and sued Barnesandnoble.com for alleged infringement two months later. A court injunction barring Barnesandnoble.com from using one-click shopping technology was issued, but that was overturned on appeal last month. A jury trial in the case is scheduled to start in September in U.S. District Court in Seattle.

Officials at Barnesandnoble.com declined to respond to questions about the information released by Boston-based BountyQuest. But in a statement that was released as part of an announcement by BountyQuest, Ron Daignault, an attorney who represents New York-based Barnes & Noble Inc., said the bookseller and it online venture didn't have any of the prior art that was submitted to BountyQuest when their appeal of the injunction was being considered.

Amazon spokeswoman Patty Smith said executives there remain "confident that the one-click patent is valid."



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BRIEFS

Lotus Teams With Ericsson, Nokia

IBM subsidiary Lotus Development Corp. last week announced an agreement with cellular phone makers LM Ericsson Telephone Co. in Stockholm and Nokia Corp. in Espoo, Finland, to put a mobile version of Lotus Notes and Lotus Domino on cell phones and other wireless devices by year's end. Cambridge, Mass.-based Lotus will jointly market and distribute its mobile device software with each company. The software lets customers access business applications via phones that use the Wireless Application Protocol.

Citrix Buys Sequoia

Citrix Systems Inc. will acquire Sequoia Software Corp. for $184.6 million in cash, paying $5.64 per Sequoia share, the two companies announced last week. Columbia, Md.-based Sequoia makes XML-based software for building Web portals. Fort Lauderdale, Fla.-based Citrix, which makes connectivity software for application servers, hopes to add Sequoia's portal products and technology to its portfolio.

Oracle to Trim Workforce by 2%

In the wake of lackluster third-quarter earnings, Oracle Corp. said last week that it's reducing its workforce by about 866 jobs. "Based on current business conditions, at this time the company expects to reduce our worldwide workforce by approximately 1% to 2% through normal attrition and regular business performance assessments, in line with our ongoing global e-business process improvements," the software maker said in a statement.

3Com Reports Loss

Blaming a downturn in demand for its products among U.S. users, networking equipment maker 3Com Corp. last week said revenue for the quarter ended March 2 came in at $529.6 million, down 18% from $1.1 billion for the same period a year ago. Santa Clara, Calif.-based 3Com said it plans to focus more on core its businesses and expects a 10% workforce reduction.

HP Confronts Slump, Tweaks Sales Strategy

Vendor clarifies prospects for direct vs. channel sales, readies PA-8700 machines

BY JAIKUMAR VIJAYAN

HEWLETT-PACKARD Co. is tweaking its direct sales strategy and is readying a new line of midrange Unix servers in a bid to reinvigorate sales that have been slowed by the shrinking economy, channel turmoil and the dot-com collapse.

The company recently instituted its so-called Hard Deck program, under which it has identified and listed about 500 of its largest customers to whom it will sell products and services directly.

The goal of the program is to address growing channel concerns regarding which companies HP will sell to directly and which customers it will let resellers approach, said Mark Hudson, a global marketing manager at HP.

The company has said that problems arising from this conflict at least partially contributed to HP's sales slowdown in the fourth quarter.

HP plans to be more active in generating leads for resellers via advertising, direct mail campaigns and joint sales efforts that will be managed by new field alliance managers, Hudson said.

Sorting through these channel issues should benefit HP and its customers, according to David Krauthamer, manager of information systems at Advanced Fibre Communications Inc., a Petaluma, Calif.-based manufacturer of telecommunications equipment and an HP user.

"There always seems to be a lot of overlapping going among HP's channel partners. ... There always seems to be a lot of people looking to sell you HP [technology]," Krauthamer noted.

HP is also readying new midrange servers and workstations based on its next-generation PA-8700 chip, which will debut at speeds ranging from 600 to 800 MHz. The first systems based on the new chip should begin shipping sometime in the second half of this year, Hudson said.

HP's moves come at a crucial time. The company has recently lost market share in the highly competitive server arena to both IBM and Sun Microsystems Inc. HP's high-end Unix revenue declined 54% in the last quarter, compared with the same quarter last year.

Meanwhile, HP said that sales of its long-awaited Superdome enterprise Unix servers — the company's answer to Sun's popular Ultra Enterprise 10000 server — have been slow to take off. Although figures aren't available, even HP officials acknowledged that Superdome sales have been slow.

"The major issue they are facing is that Superdome is not delivering the performance that a lot of people were expecting," said Humberto Andrade, an analyst at Technology Business Research Inc. in Hampton, N.H. "It has not been the big breakthrough that was promised."

According to Hudson, however, the slow sales have more to do with the longer sales cycles than with any inherent performance issues.

Prices range from $400,000 for a 16-way server to more than $1 million for a 64-way box, so it's taking HP much longer to close those deals, Hudson said. ◗

Server Rankings

Server market leaders (includes Unix, Windows NT and MVS):

Vendor	2000 Revenue
IBM	$13.6B
Sun	$10.3B
Compaq	$10B
HP	$9B

SOURCE: IDC, FRAMINGHAM, MASS.

Author: Linux Will Be True Windows Alternative by '02

Says final glitches still need fixing

Eric S. Raymond, author of "The Cathedral and the Bazaar," a classic essay on the open-source software movement, has been an open-source innovator and advocate for years. He's a board member of VA Linux Systems Inc. in Fremont, Calif., and lectures around the world about the benefits and future of Linux, Unix and open-source software. *Computerworld*'s Todd R. Weiss recently spoke with Raymond to get his views on the prospects for Linux in the business market.

RAYMOND: "I don't think open-source adoption is a fad."

Q: Last year, IBM jumped onto the Linux bandwagon by announcing that it would invest $1 billion in the operating system this year. Is this a fad, or is it a sign of a major buy-in by one of computing's biggest names?

A: I don't think open-source adoption is a fad. IBM doesn't do fads. Corporate America responds to costs and economic reasons. The fundamental issue in the increased proliferation of Linux and open-source software in business computing is the escalating cost of traditional closed software and its rising complexity and bugginess.

The costs of bad software are rising, in terms of lost business and hours spent by systems administrators chasing problems.

Q: Where can Linux find a niche to begin popularizing itself as a true business desktop alternative that could be successfully marketed to IT departments?

A: If you're a retail or hotel outfit, you have lots of computers out there where no technicians are located. Your business problem is that you need to deploy computers that are not going to crash — ever. That's where Linux and open source start to look much more attractive and viable.

Technicians in the inner sanctums of corporate computing are finding ways to use more open source in their companies, even when IT managers don't know it's being done. The only thing management ever notices is they stop having downtime.

Q: But analysts and industry professionals seem to agree that Linux isn't ready to replace Windows in the corporation.

A: I think the Microsoft desktop monopoly will break due to operating system pricing issues before Linux is really ready for the role of being a true alternative.

We're nine months away from the polish for that role. What's still needed is for Linux to be refined to eliminate any remaining glitches that stall installations and leave users unsure of how to proceed. That's the kind of stuff that needs to get fixed. There are people with incentives to do that now. The companies making Linux distributions hire people to do it.

Q: What about the support issue?

A: Business users can get support for Linux. There are user groups, the distribution companies. ... By going to Linux from Windows, you replace four or five IT problems that you can't solve with 100 little ones that you can solve. ◗

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MARYFRAN JOHNSON

Leadership, Distilled

LEADERSHIP is a many-splendored thing. It can motivate a staff to do amazing work. It can steer a project to success when failure looms. It can spring across those invisible borders between business and IT and forge a powerful alliance.

"If you are not going to make a change for the better, why be a leader?" asks Donald Zacherl, chief technology officer at NAHB Research Center Inc. "That is what leaders do: look for, encourage, foster, cajole and even compel organizational change."

MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at **maryfran_johnson@computerworld.com.**

Coming from one of our Premier 100 IT Leaders for 2001, Zacherl's words echo the beliefs of many of his colleagues, whom we honor in this issue with a special supplement (starting after page 40) and online at *www.computerworld.com/premier100*. Now in its second year, our Premier 100 awards program attracted more than 500 nominations nationwide last fall. We asked those nominees to fill out an extensive 62-question survey on everything from their job experience, management styles and IT backgrounds to their views on innovation and risk.

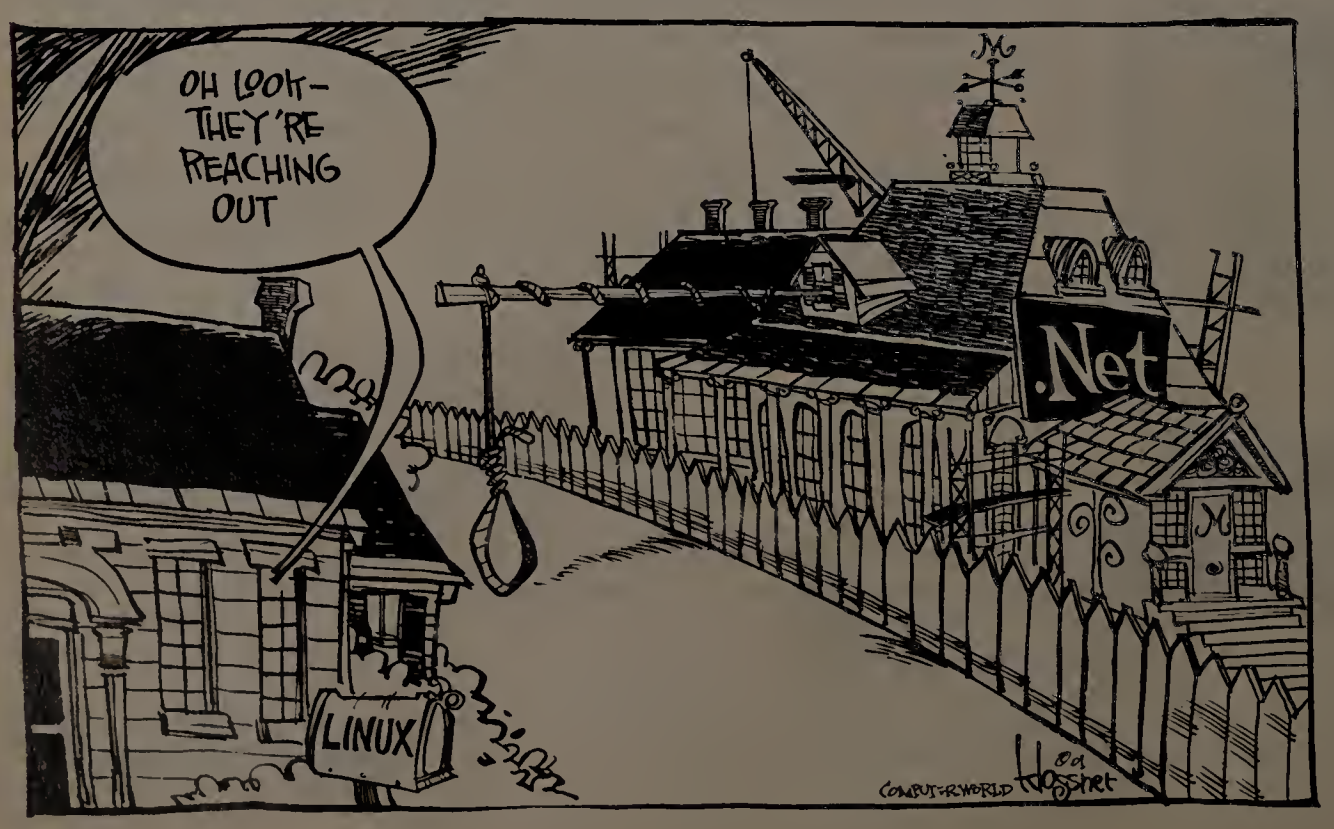
From those surveys, we learned about the business savvy of Marriott International CIO Carl Wilson, who aligned IT strategy with hotel operations in such a way that his fellow executives now think of technology as a valid investment rather than an unavoidable expense. We heard about the inspirational ideas of the co-CIOs at Capital One Financial, where Marge Connelly and Laura Olle created a "board of directors" among the senior IT leaders that reduced decision-making delays.

We found many common traits across this very diverse group of talented folks. All of these people reveal a readiness to take risks, to tackle big projects and to use IT to create new business opportunities.

"There's an equal component of nature and nurture in leadership, but I can't remember ever not wanting to be a leader," notes Andre Mendes, CIO at the Public Broadcasting Service in Alexandria, Va.

Then there was the fun stuff, like finding out how one CIO knows how to water-ski barefoot, or how another once appeared in a music video with Mick Jagger. Their checkered pasts include stints as yo-yo champions, motorcycle racers and even exotic dancers.

On May 20-22 in Rancho Mirage, Calif., we'll bring this year's crop of winners together at *Computerworld*'s Premier 100 IT Leadership Conference. I invite you to join us and hear directly from these IT leaders about how they're dealing with security and privacy concerns, the rollout of wireless technologies, the race to globalization, the changing customer connection and the search for value and technology payback. Come and be inspired.



PIMM FOX

Too Much Sun? Vendor off Mark On Web Services

BLAME IT ON the Los Angeles smog. Sun Microsystems' presentation at this month's Spring Internet World of its "Next Wave of the Net" was wrapped in the kind of technology haze that belies the reality of everyday IT and business. That's strange, because George Paolini, Sun's vice president of marketing, served up a clear analysis of where Web services for corporate users is headed.

It's as if he gave great driving directions but in the end, never had the correct street address.

On the software front, it's obvious we're moving from big applications to service components, which is changing the way software is developed and deployed.

PIMM FOX is *Computerworld*'s West Coast bureau chief. Contact him at **pimm_fox@computerworld.com.**

We're witnessing a move from multiple platforms to a network of shared services incorporating technologies such as Bluetooth and WAP. Finally, there's hope for some basic protocols for the delivery of Web services using TCP/IP, network file sharing, HTML, SSL, LDAP, Java and ebXML.

As a result, you might assume that IT vendors like Sun would grasp that we desire incremental IT change and improvements rather than some new layer of file access.

Indeed, the popularity of cell phones, pagers and PDAs should push efforts for network standards, giving IT managers the access and control they enjoy on the desktop.

How, then, to explain the business appeal of Sun ONE Webtop, part of the "Next Wave" strategy?

It's designed as a standard browser with nothing installed. Paolini showed how to access Word and Excel files; the files can be exchanged, modified and generally used as if the application were installed, all in real time.

It's a Web service, but where's the pressing need?

Moving from a read-only to a read-and-write Internet is a tech high-five, but what's the monetary or management benefit to IT? Imagine the potential problems of having to be online in order to use a basic word-processing application.

Instead, can't Web services focus on policy-based provisioning tools and automated help desk functionality, with better security and tracking tools that integrate with legacy systems? How will accessing Word and Excel files make intranet and server management easier?

It just isn't essential, and while perhaps Paolini sees IT managers roaming the country worrying about how to get rid of desktop applications,

most are fielding phone calls, attending meetings and answering e-mails.

His demonstration showed a road warrior armed with nothing more than a Palm VII or a WAP-enabled phone accessing Word and Excel documents in real time.

But that's the current problem.

Vendors are trying to sell to end users, who are easily wooed by newfangled technology. We swallowed new technologies in the '90s because end users said, "We need this for our job."

It's time to start using what we have, rather than embracing a new networked application strategy just because that's what Sun can deliver. ◗

DAVID MOSCHELLA

Court Puts the Proper Focus on Microsoft Case

NO MATTER WHAT the U.S. Court of Appeals ultimately decides, it seems to have succeeded in getting back to the core of the Microsoft antitrust case: What harm, if any, has really been done to consumers? Many of us may feel that Microsoft has acted in an unnecessarily arrogant, bullying and even dishonest manner that's truly unworthy of an industry leader. But unless there is clear evidence that Microsoft's actions have actually hurt consumers, the case for major government intervention is fundamentally flawed.

Perhaps because consumer harm is actually the weakest part of their case, Justice Department lawyers continue to emphasize Microsoft's attitudes, motives and tactics. But the Appeals Court has seen through this strategy much more consistently than Judge Thomas Penfield Jackson did during the original trial.

DAVID MOSCHELLA is vice president of knowledge strategy at MeansBusiness Inc., a Boston-based Internet start-up that's building a database of ideas. Contact him at dmoschella@earthlink.net.

There are four main ways consumers might be harmed by what Microsoft has done, but, as explained below, only one stands up to scrutiny, and even then only hypothetically.

Reduced choice. The government continually argues that consumers should have a choice of browsers. But IT industry history is full of examples where consumers appeared to prefer a single uniform software standard. Certainly, many Web builders would rather not support multiple browsers, each with its own quirks.

Slower innovation. While two healthy browser companies should generate more browser innovation than just one, the free worldwide distribution of Microsoft's Explorer has greatly accelerated the overall rate of Web-centric innovation. The net effect upon innovation seems strongly positive.

Shareholder losses. Obviously, both Netscape and RealNetworks would be worth a lot more today if Microsoft wasn't giving away its competing offerings. But shareholder returns are only a minor aspect of consumer protection.

Higher prices. Free browsers, e-mail clients and media players certainly seem to benefit consumers. The only way consumers could be harmed is if Microsoft were to gain a dominant share in one or more of these markets and then begin to price its products accordingly.

For those who believe that an unjust action must surely have some unjust consequences, here's a more hypothetical scenario. By giving away Explorer, Outlook Express and its Media Player, Microsoft, perhaps more than any other company, has contributed to the view that Internet content and software should be free. If this attitude winds up eventually hamstringing the industry, Microsoft will be as much to blame as anyone. But this line of speculative reasoning clearly has no legal standing.

Out of this seemingly pro-Microsoft analysis comes one simple conclusion: Breaking up the company isn't necessary to protect consumers. The courts just need to put Microsoft on firm notice that it can't use its freeware strategy to build up future streams of monopoly profits. The company must understand that, should Netscape be vanquished entirely, Microsoft can't suddenly start charging money for Explorer without becoming open to charges of predatory tactics and potentially being subject to massive liabilities.

This case has always been about what constitutes predatory pricing. Microsoft isn't inclined to give away its software. It does so only when it faces serious desktop software competition. The courts have accepted this selectively predatory tactic in deference to the complexity of the IT industry and because of the clear consumer benefits. But should Microsoft gain and then proceed to exploit newly dominant positions, real consumer harm becomes likely. If the courts and Microsoft can agree that this won't happen, then consumer protection can be assured and the government's primary goal can be achieved. ◗

READERS' LETTERS

It Isn't XML vs. EDI

AS THE ARTICLE "Corporate Users Cool Toward XML for Supply Chain" points out, companies aren't going to give up years of EDI development for XML [*Computerworld.com*, Feb. 21]. But we've been supplying EDI solutions to our customers for nearly two decades, and we're telling them that you don't have to look at EDI and XML as competitive solutions. They are, in fact, complementary.

Hubs in a hub-and-spoke model need to offer their suppliers the opportunity to conduct e-commerce with them in any manner that works for the spoke, not exclusively for the hub. By adding XML capabilities to complement their EDI systems, hubs open the doors to all suppliers. Any-to-any data messaging benefits the hub by expanding the base of potential suppliers.

Standards are important for e-commerce, but part of the power in XML is the ability to become standard-agnostic. Companies looking at XML today can be relatively certain that the ultimate shakeout in standards won't make their XML investment obsolete.

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UCITA Disenfranchises

IF UCITA supporters are right that "companies would still be free to contract with software vendors as they see fit," then this is a real problem that is being overlooked ["Texans Face Off Over UCITA Bill," Page One, March 12]. If large companies can pay to negotiate large contacts that turn off some of UCITA's default provisions against end users, this disenfranchises small companies and private citizens.

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Immigration Is Elusive

AS AN INDIAN software professional currently in the U.S. on an H-1B visa, I take offense at the title of the article "The New Immigration Wave" [Business, March 12].

An H-1B holder can work in the U.S. for only six years, then he must leave unless he receives a green card. A dictionary will tell you that an immigrant is "a person who leaves one country to settle permanently in another."

I am an H-1B worker who has been unsuccessful trying to immigrate for more than four years [News Opinion, June 19]. The fact remains that not all H-1B workers intend to (or are able to) immigrate to the U.S.

Mohan Babu
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More Than a Name

IN ERIC SINROD'S column of March 9 ["Carnivore by Any Other Name . . ." *Computerworld.com*], he says, "The first recommendation of the review team was to change the name of the program." This is simply not true. While the report issued by the IIT Research Institute team contains a number of recommendations and suggested improvements, it doesn't suggest changing the name of the program at all. What it does suggest is that, among other things, the FBI make major changes to Carnivore, especially in the area of accountability, as the current version has none. It also encourages the FBI to work toward a full public release of the source code and the system, which happens to be one of the main things the privacy groups have advocated. While Sinrod and others have every right to criticize the FBI Carnivore program, that criticism shouldn't try to add words to the independent review report.

Stephen Mencik
Gambrills, Md.

Editor's note: *Mencik was a member of the IITRI team that conducted the independent review, but the opinions he expresses are his alone.*

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. Internet: letters@computerworld.com. Include an address and phone number for immediate verification.

DAN GILLMOR

Corporations Have Feds' Ears in Privacy Debate

PRACTICALLY EVERYONE agrees that data privacy legislation will come out of Congress this year. That's the good news.

The bad news, of course, is that the legislation is likely to be the kind of useless junk that creates headlines and only makes the problem worse. The congressional leadership and the White House are visibly in the tank for corporate America, which isn't about to permit privacy fears to interfere with its God-given right to do business entirely as it pleases.

DAN GILLMOR is a technology columnist at the *San Jose Mercury News*. Contact him at dgillmor@sjmercury.com.

At least the debate is finally taking place. For years, privacy wasn't even on people's radar screens. But the compilation of databases, coupled with pervasive net-working and new technology tools, has brought the issue front and center.

The technology industry, Web companies and traditional businesses are fierce in their determination to thwart legislation — with good reason, from their perspectives. Data about customers is valuable, both internally and as a commodity to be bought and sold.

There's a First Amendment angle to this discussion. If we control the dissemination of personal data that a third party collects, isn't that an abridgement of free speech? Commercial speech has never had quite as much protection as other kinds, but this is an issue we need to hash out before making decisions.

Another focus of the privacy debate is the unwarranted demarcation between what people call "online data" and the vast, unregulated storehouses of personal data that have been compiled offline for decades and are now becoming part of everyday commerce. Almost everyone has heard of Amazon.com, which has been the subject of privacy advocates' ire over inadequate policies. Almost no one has heard of Acxiom, an Arkansas-based company that has what amounts to dossiers on almost every American household (and millions more overseas).

So when the Online Privacy Alliance, a group of huge companies battling to forestall genuine privacy protections for consumers, complains about uneven treatment, it's not entirely wrong.

This battle isn't just about Internet data — whatever that may be. It's about *all* data.

Congressional attitudes are becoming clearer. Rep. Billy Tauzin, the Louisiana Republican who chairs the powerful Commerce Committee, has joined some other members of Congress in complaining about the European Union's data privacy rules, which were passed in 1995 and are taking effect across Europe. The EU's rules are in many respects much more proprivacy than anything being seriously contemplated in the U.S.

The rise of the chief privacy officer (CPO) in corporate America is a good sign. But from all appearances, the chief duty of some CPOs is to find loopholes through which their companies can pretend to protect customer privacy while actually doing the opposite.

IT has been at the periphery of the discussion for a long time. But smarter companies have built privacy into their information systems as an integral feature, not as a bolted-on afterthought.

Congress may not — probably won't — summon the courage to protect people's privacy during its current term. But that will hardly settle the issue, because the dissemination of data across networks is in its infancy, not its maturity, which means the horror stories have barely begun. In the end, public outrage will grow more quickly than the antiprivacy forces' campaign contributions and lobbying war chests. ◗

MICHAEL GARTENBERG

How to Make a Big Hit With Your Pitching

DURING MY 15-year career, I have created the technology architecture for a Fortune 500 company and covered the IT industry for a major consulting group. Now, I'm a venture capitalist. In short, I've had to sit through many presentations from people trying to get me to buy their products, say nice things about their products or give them large sums of money to create their products.

MICHAEL GARTENBERG, former vice president and research area director at Gartner Group Inc., is a partner at Hudson Ventures, a venture capital firm in New York. Contact him at mgartenberg@hudsonptr.com.

Many of these presentations were nothing short of disasters. It seems some folks are reading the same books, taking the same bad public speaking courses and, in short, thinking that their audiences are morons.

So I have the following advice for you, especially if you work in an IT department and are trying to pitch an upgrade to management or trying to sell something:

1. Practice, practice, practice. The best pitches are rehearsed and created to sound spontaneous, but the truth is, they really aren't. There are only two types of great speakers: those who will tell you they rehearse and practice what they're going to say, and those who lie about it.

Ever see Fred Astaire dance? He made those moves look so easy, but you never saw the hours of planning and rehearsal that went into them. Public speaking is no different. So plan, rehearse, and rehearse again.

2. Focus on your audience. Whether you're an IT manager or vendor, you're trying to sell someone on something. Treat your pitch as if you're trying to win over a customer.

Remember that the only definition of a customer that matters is "someone who pays you something for your products or services."

3. There are no strategic partners, just customers and suppliers. (See No. 2.)

4. Don't name-drop. Odds are that someone in your audience will have a better contact list than yours, so be careful on this point. Also, never mention that you had or are having lunch with a vendor bigwig. It won't impress managers and will make them wonder about your relationships with vendors.

5. Avoid Chinese math. *Chinese math* is a term referring to sales pitches aimed at selling into 1% of the Chinese market (or some similar metric that's a potentially huge number). Problem is, getting 1% of any market is harder than it sounds, and besides, I'd rather deal with people going after 99% of the market. Pitch products based on needs, not markets.

6. Lies, damn lies and forecasts. Keep your projections honest. Just once, I want to meet with someone who, instead if citing "conservative" projections, will acknowledge that their numbers are wildly optimistic and that there's little chance of reaching them.

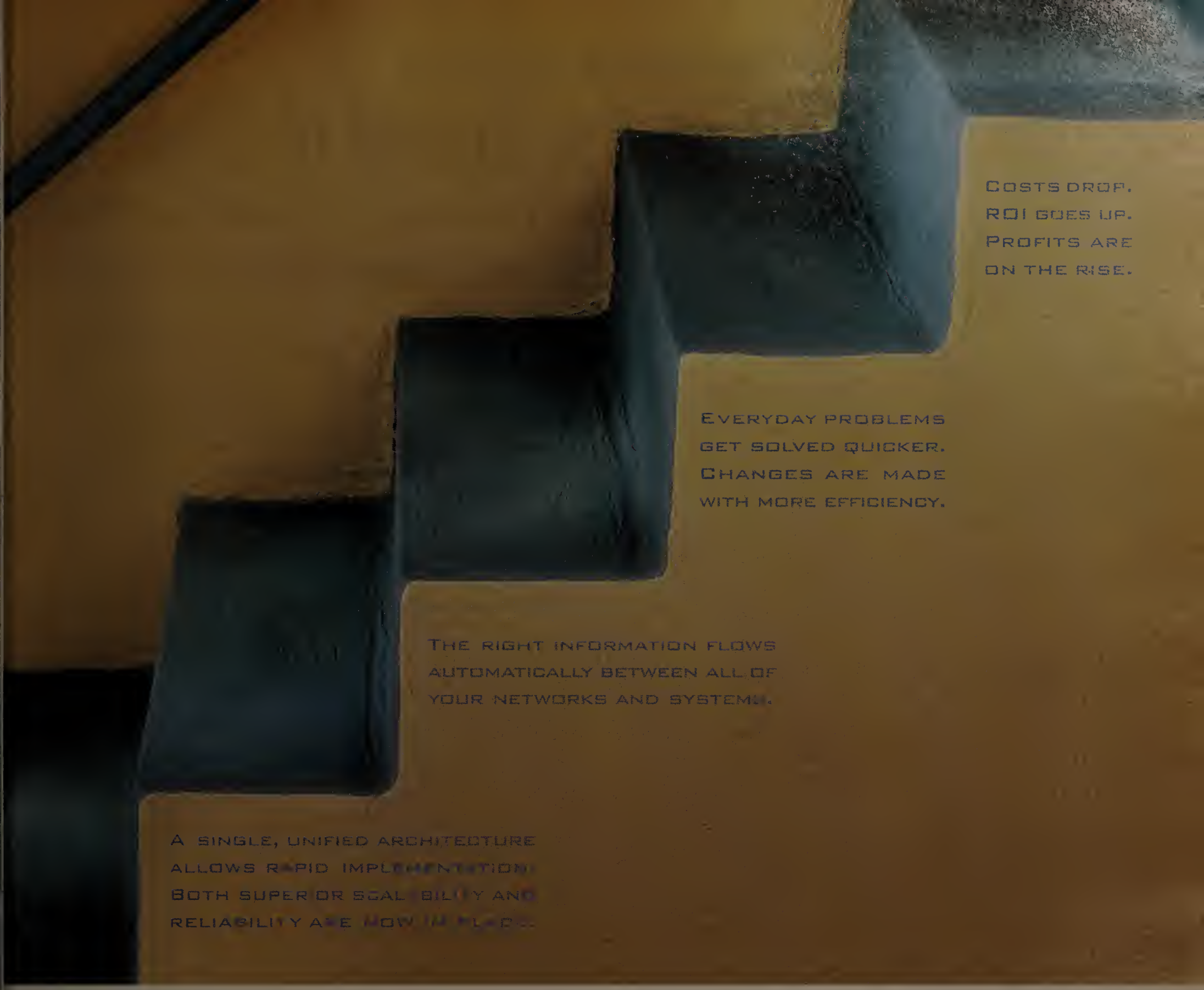
7. Keep it short and sweet. No one ever lost a deal because his presentation was too short.

8. Be sparse in your analyst quotes. I spent the better part of five years writing them and know what to look for. The reality: Not every new trend will necessarily spawn a billion-dollar market during the next three years. Direct your audience to the sources and let them decide the usefulness.

9. Arrive on time. No one likes to be kept waiting, especially someone who's giving you his time. You'd think this is a no-brainer, but it's not. Arriving late gets the first meeting off to a poor start.

10. Avoid buzzwords and exaggerations. You lose audience attention immediately and raise skepticism to new heights. My favorite pitch came from a vendor who simply stated that his product was "100% buzzword-compliant." In fact, there was so much "buzz" in the pitch that I have yet to figure out what the product actually did.

Giving a pitch is an art, and few people are born with this talent. So practice your pitching and get out there and win your audience. And remember, if you haven't struck oil after 30 minutes, please stop *boring*. ◗



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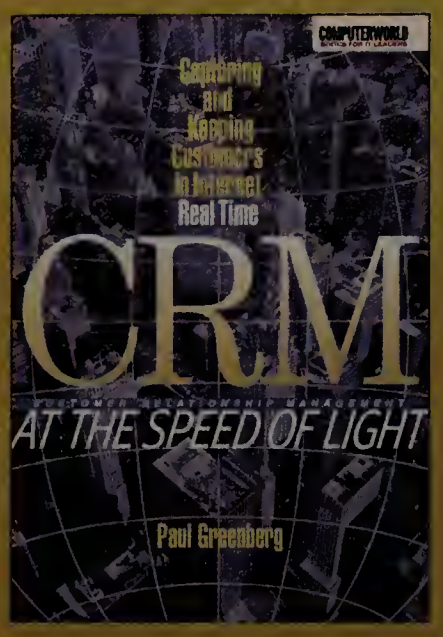

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Interact is the leading provider of relationship management software for mid market companies and small office/home office businesses. The company is known for building products that are easy to use, quick to deploy, and provide anytime, anywhere access to critical information. The company's products include SalesLogix, the mid-market CRM leader (customer relationship management) used by over 3000 companies; and ACT!, the best selling contact manager used by more than 3 million professionals and 10,000 corporations.

Headquartered in Scottsdale, AZ, the company can be found on the World Wide Web at www.interactcommerce.com

COMPUTERWORLD
BOOKS FOR IT LEADERS

CRM at the Speed of Light

Capturing and Keeping Customers in Internet Real Time

Authored by: Paul Greenberg

Sales Force Automation: The Purpose

What is then expected of successful sales force automation? Not just the standard increases in revenue and margin. With the success of the "intangibles measurement" methodology represented by the Balanced Scorecard, there are means for quantifying measurements of customer satisfaction and sales force effectiveness that complement increases in the bottom line, as tangible as those increases are.

Increased Revenue

Needless to say, this is the *ne plus ultra* result for SFA: improvement in the bottom line. But a gross increase is not a sufficient answer for SFA success. Just as important are the increases in revenue per salesperson and in the gross profits per year. If you have an increase of 100 percent in sales revenues but your cost of sales has increased, or it came strictly as a result of your increased sales force, your SFA implementation failed.

Cost Reduction in Cost of Sales

Interestingly, this is a key parameter for success in an SFA implementation. There is an enormous amount of time used by salespeople in coordination of their efforts, continuous, repetitive data entry, and often unsuccessful attempts to extract and interpret data without the tools to do so. Studies have been done that show that sales time to fulfill administrative functions is almost half of a salesperson's activity. By reducing the time engaged in these administrative or other non-sales-related efforts, the cost of sales is reduced.

Customer Retention Due to Company, Not Product or Service

If your customers are happy, they stay with you, even if they are paying a bit more. Myer Emco, a very successful customer home theater and consumer electronics equipment installer, puts a large amount of time into making sure their customers get excellent service. They probably are 10 to 15 percent more expensive than comparable retail equipment dealers in the Washington, D.C., metro area. However, they have a loyal clientele willing to pay the extra cost, simply because the level of personal service is so effective. It's not about the money, it's about the relationship with the company and, often, the relationship with particular salespeople within the company.

Sales Force Increasing Mobility

The Web is transforming as it creates the New Economy. Perhaps the best example is the increasing use of personal digital assistants (PDAs), such as the Palm or Blackberry's RIM for Internet access. Wireless applications companies are proliferating. Aether Technologies grew from 70 employees to more than 800 in a year, went public, started an acquisition binge and then, after all this, in late 2000, announced proudly that they had their first customer! Wireless Web applications and Web/phone convergence are creating an unprecedented buzz in an IT world that is known for its loud buzzing. Just recently, Handspring, the creator of the Visor PDA, announced that the Visor would have an add-in module that would plug into the back of its unique PDA that would allow Visor to operate as a cellphone. The sales force is out of the office more often than ever — meeting customers, moving through airports, prospecting for leads on Broadway with their PDAs. This is making mobility a competitive issue, requiring effective competitive mobile tools, such as the Internet and the handhelds. Most CRM companies are moving quickly to establish wireless components for sales, such as SalesLogix for Web phones and handhelds, Siebel Wireless, or the wireless access to the various SFA.com portals.

Easily Available Customer Information with Single View

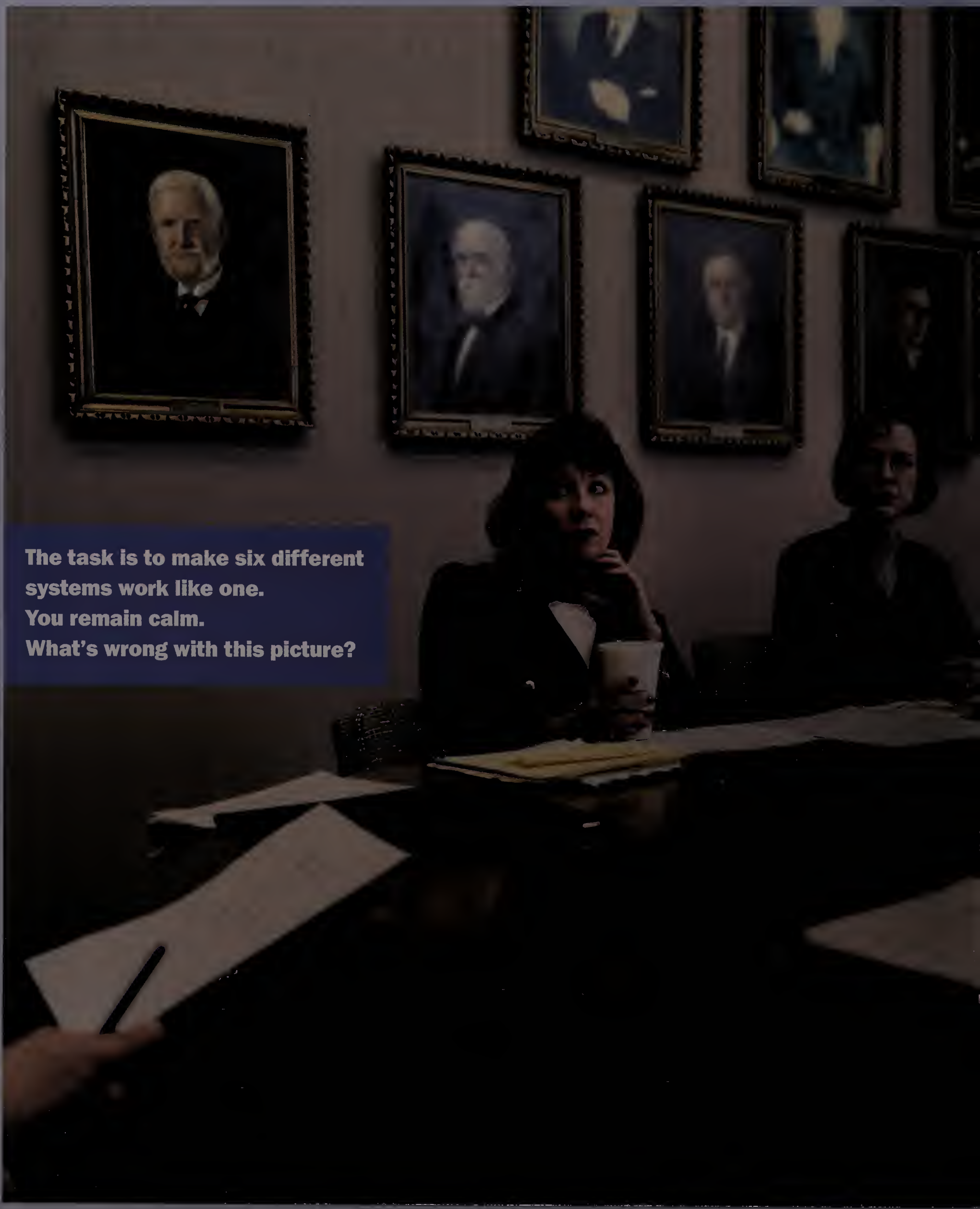
There are multiple departments that have an interest in viewing the status of a customer account or opportunity. For example, the sales department wants to see the status of opportunities. The accounting department wants to see the state of invoicing and billing for the same accounts. The marketing department wants to see reports on varying degrees of success or failure of their campaigns with individual accounts.

Within each department are individuals with different roles who each have their own agendas for what passes through their crosshairs. The vice president of sales wants to see all the activity of all salespeople in his department, including their contact lists and opportunities. He also wants to get a sales pipeline report to refine his sales forecasts for the coming quarter. The account manager doesn't need that much. He wants a national view of all of the sales activity around the accounts he owns (for example, all the sales meetings and reports related to IBM or 3Com or whoever the customer happens to be at any given moment). The sales manager wants to see opportunity progress, but not all the contact lists of each salesperson. Each salesperson wants to manage the customer accounts he owns. Each of them has the individual view that allows them to see all the data they need to — that is, have the permissions to see — but at the same time, there is a universal view of all the data available to all departments at all times.

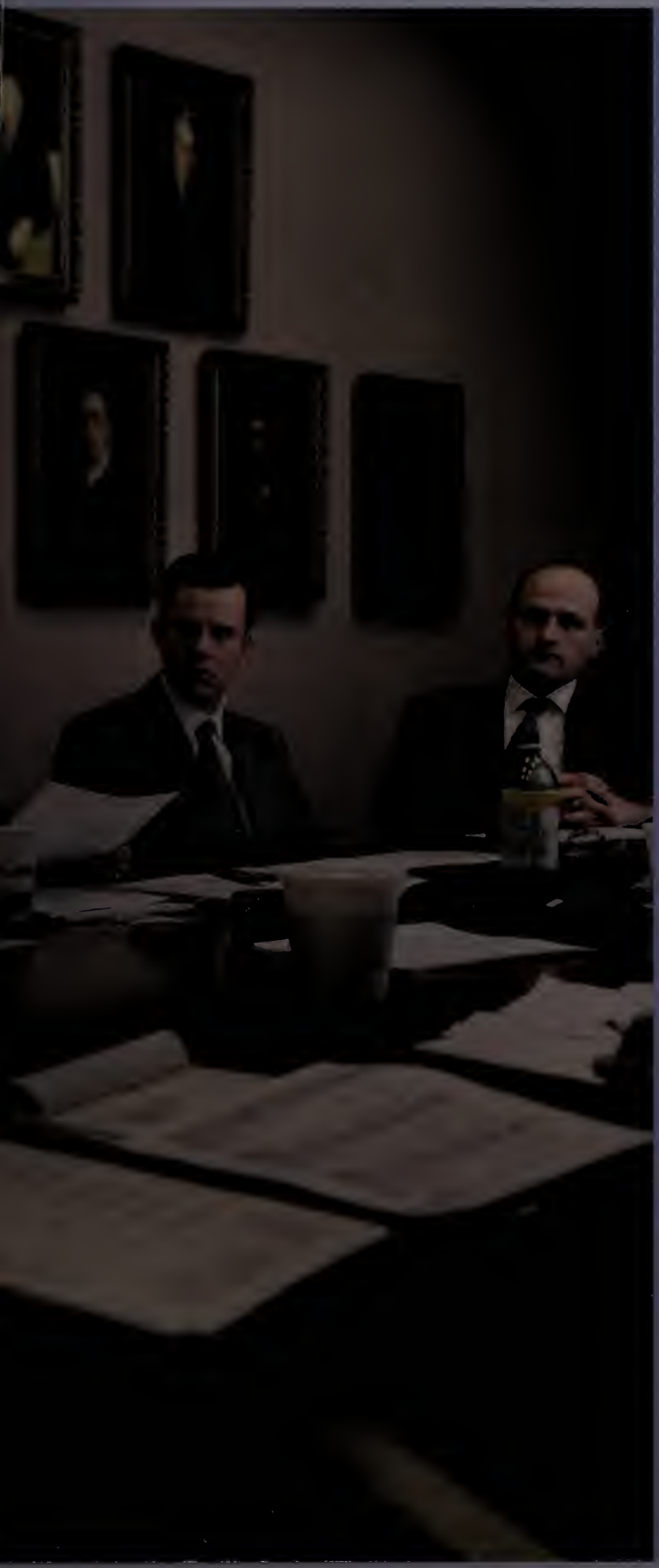
To purchase a copy of this book, log-on to: www.computerworld.com/cwi/books_for_it_leaders

Blood pressure is normal.
Ridiculous requests leave you unfazed.
You still work in IT.
(No, really, you do.)

Microsoft



The task is to make six different systems work like one.
You remain calm.
What's wrong with this picture?



Microsoft® .NET Enterprise Servers enable you to create solutions that make your company more responsive—and you more in control. Today, IT solutions are at the heart of helping a company move forward. And as the waves of change get faster and the need to communicate through all areas of business becomes greater, the expectation to come through again and again is a constant challenge.

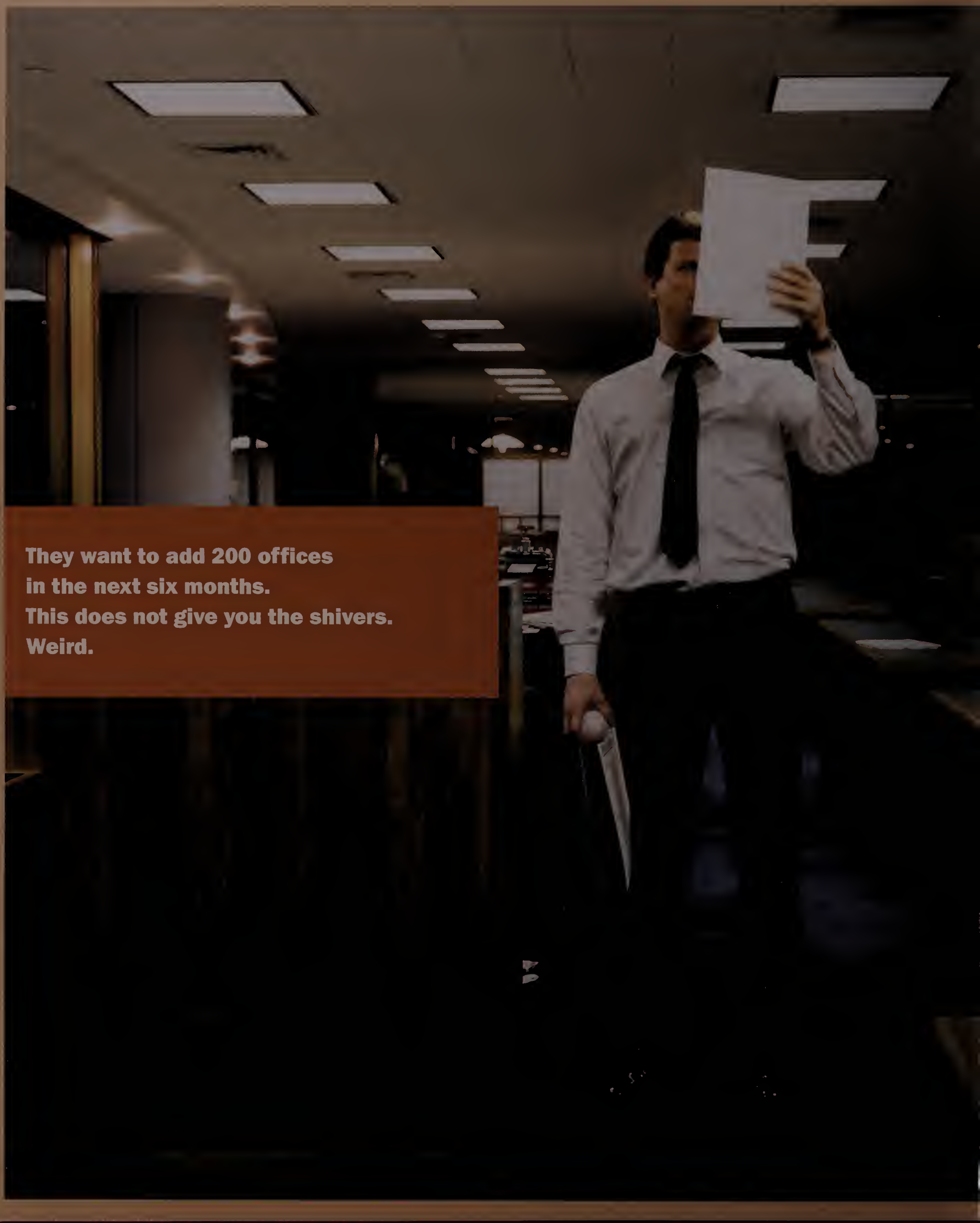
That's where .NET Enterprise Servers make your life easier. Built on the reliable foundation of Windows® 2000 Servers and with industry-leading XML support, .NET Enterprise Servers help you design, build, and deploy solutions faster--which gives you the confidence of knowing that the next five-alarm project is not only doable, but doable right away.

Take the integration of multiple systems. Today, the need to interact with customers, suppliers, and employees is more important than ever. Since .NET Enterprise Servers are based on the open Internet standard XML, they allow existing systems and new systems to easily work together as one. Microsoft .NET Enterprise Servers also integrate with your current applications—accounting, inventory, marketing, sales—ensuring that your existing investments are protected.

Enterprise apps need integration across multiple systems and vendors.

BizTalk™ Server 2000 brings everything and everyone together from the enterprise to the Internet. At its foundation are Microsoft's integration and business process orchestration technologies, enabling you to manage business processes on the fly. Taking full advantage of XML, and with support for industry standards such as SOAP, it gives you the power to rapidly integrate applications within and across organizational boundaries.

Host Integration Server 2000 provides full support for mainframe host protocols such as SNA, so you can rapidly connect existing apps to new ones. This lets you leverage your investments and reduce redundancy. It also gives you the power to integrate existing apps regardless of platform, saving you time and money.



They want to add 200 offices
in the next six months.
This does not give you the shivers.
Weird.

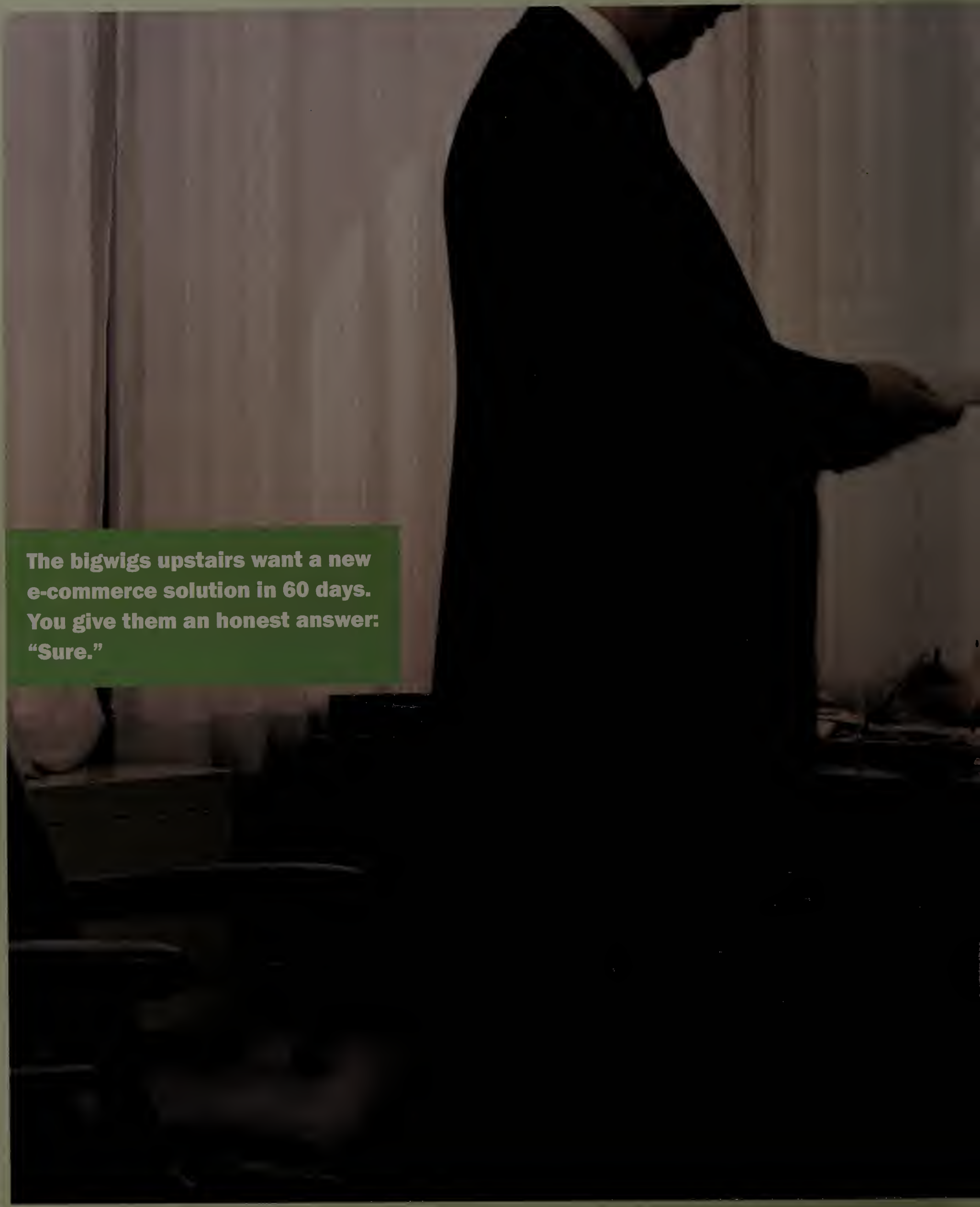
Keeping cool and composed is easy when you know your software responds well to growth. Microsoft .NET Enterprise Servers let you deliver scalable solutions in a fast, cost-effective way. As more businesses move transactions and processes to the Internet, applications constantly need to scale to match demand. Systems must also be flexible and have the ability to integrate hardware and replicate software with no downtime to employees, customers, and partners. Microsoft .NET Enterprise Servers give you the flexibility you need without adding a new level of complexity and the potential for unnecessarily high replacement cost. That's precisely why some of the quickest-growing, most trafficked Web sites on the Internet are powered by the Microsoft e-business platform.

**Represents all Ticketmaster Web properties*

SQL Server™ 2000 delivers scalable Web solutions. As your business grows, SQL Server 2000 distributes the database workload across multiple servers. SQL Server 2000 can handle terabyte-sized databases on down. And with its world-record-setting 505,302 transactions per minute, it's over three times faster than competing enterprise systems at one-third to one-half the cost.[1]

Application Center 2000 delivers scalable server architecture that automatically grows with you. It makes managing groups of servers as simple as managing a single computer. Its scale-out capability allows you to add servers incrementally as needed. It also helps you create systems that can withstand software and hardware failures at any point, ensuring that no single point of failure will disrupt the entire system.

MARKET FACT



The bigwigs upstairs want a new e-commerce solution in 60 days. You give them an honest answer: "Sure."

Software that helps you quickly seize opportunities also instills a certain confidence. Microsoft .NET Enterprise Servers help you deliver e-commerce solutions sooner rather than later. Until now, creating powerful e-commerce solutions to meet the needs of a rapidly changing marketplace has been difficult, expensive, and time-consuming. Those who can change quickly and easily come out ahead. The .NET Enterprise Server family is designed to help you get to market faster by building tailored solutions that optimize the customer's experience and provide business managers with real-time analysis and control of their online business. With native XML support within the .NET Enterprise Server family, you can build e-commerce solutions quickly because the servers integrate with each other and interoperate with solutions inside and outside your company.

Commerce Server 2000 is all about getting e-commerce solutions up and deployed fast. It's a comprehensive solution for quickly building and deploying scalable, personalized B2B and B2C solutions. Out-of-box apps and pre-built business components let you focus on customizing your site rather than worrying about the plumbing. Intuitive administration tools simplify and centralize many tasks, helping you reduce total cost of ownership and increase your application availability.

SQL Server™ 2000 simplifies management and fine-tuning. It includes advanced management functions that automate routine tasks. It also features improved programming tools and services to speed development and application deployment.

Internet Security and Acceleration Server 2000 provides you with secure and manageable Internet connectivity. It uses rules-based traffic management and policy enforcement to maximize your corporate security and protect your network from unauthorized access.

MARKET FACT

Microsoft .net Enterprise Servers

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Orchestrates business processes within and between organizations.
- XML-based business process integration
- Industrial-strength infrastructure
- Easy administration and tracking

SQL SERVER™ 2000

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- Easiest database to build and manage
- Fully Web-enabled, with native XML store
- Highly scalable and reliable

COMMERCE SERVER 2000

The solution for quickly building an effective online business.
- Comprehensive e-commerce site infrastructure
- Fast time-to-market for tailored B2B and B2C applications
- Empowers business managers

APPLICATION CENTER 2000

The deployment and management tool for high-availability Web applications built on Windows® 2000.
- Simplified application management
- Software scaling made easy
- Mission-critical availability

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Integration components for host systems.
- Data, application, and message integration
- One-stop shopping for host integration
- Extends XML backbone to legacy host

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Integrated firewall and Web cache server built to make the Web-enabled enterprise safer, faster, and more manageable.
- Easy way for employees to get to the Web
- Faster content for visitors to Web sites
- Safety for organizations

EXCHANGE 2000 SERVER

Reliable, easy-to-manage messaging and collaboration solution for bringing users and knowledge together.
- 24x7 messaging and collaboration
- Access to info and people—anytime and anywhere
- Developer services for building and deploying applications

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BUSINESS

PRIVACY PROBE

Know your customer: It's the most basic but critical rule of business. But as technology becomes more sophisticated, privacy questions abound. Those questions have prompted the Federal Trade Commission to investigate data collection practices and decide whether they invade consumer protection laws. So far, the jury is still out. ▸ 36

FULL STEAM AHEAD

Even if the economy tanks, hoarding your budget and saving money is the worst thing you can do, writes Kevin Fogarty. Smart companies refuse to let the economy slow them down. ▸ 36

LEAN ON ME

Online communities have become a godsend for companies like Slim-Fast and Weight Watchers, which rely on customers' need for support and encouragement. Find out how they're expanding their services into the virtual world. ▸ 40

BACK TO SCHOOL

Summer school can be an ideal setting for IT executives to explore the more in-depth leadership development programs that top universities have to offer. Here's a look at some programs that are worth considering. ▸ 46

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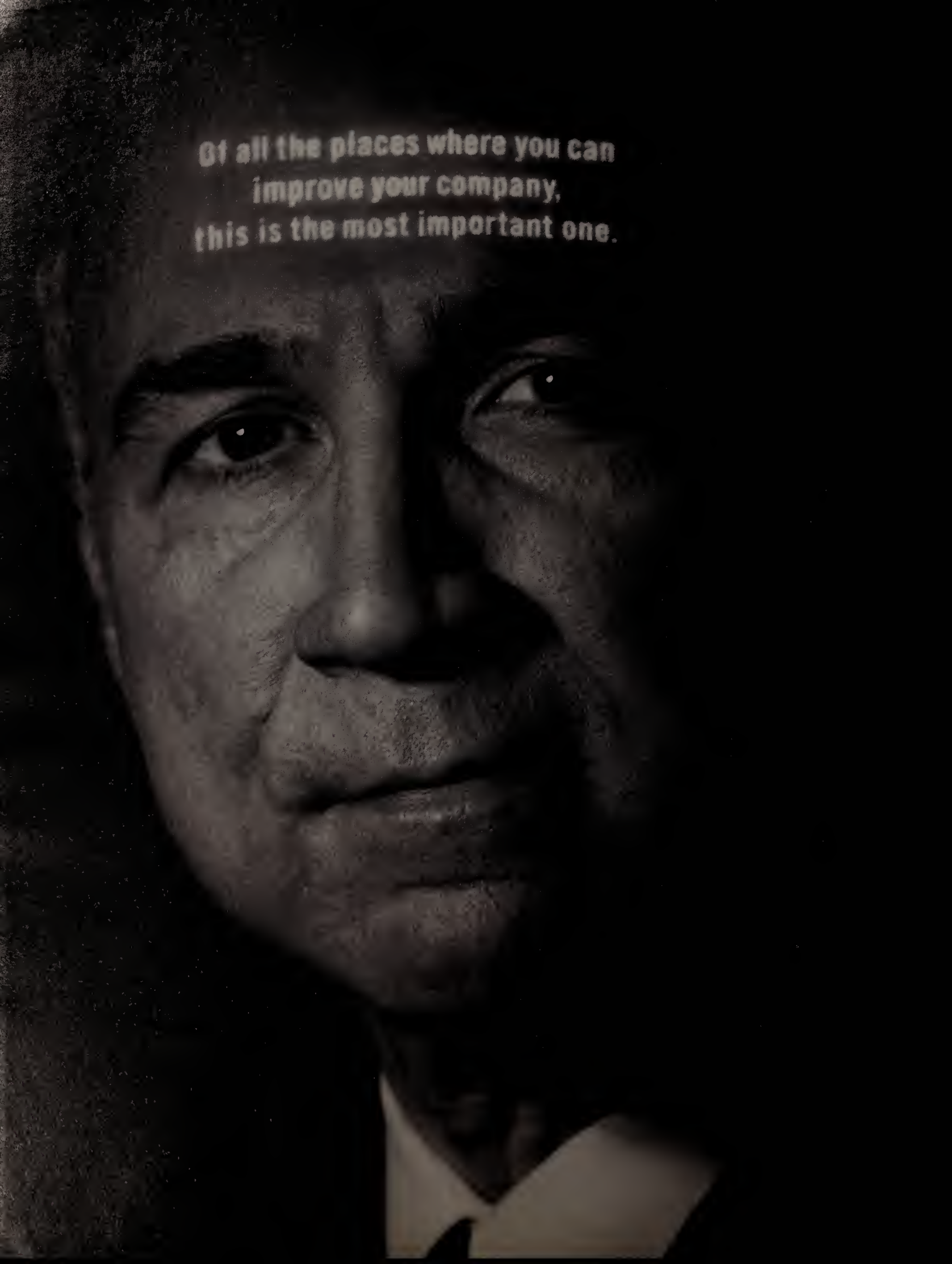
A WEAK CASE FOR LITIGATION?

THE NUMBER OF IT LAWSUITS HAS MULTIPLIED in the past decade. Many of the complaints are coming from customers peeved at vendors and outsourcers that don't meet expectations. But are the vendors really to blame, or are the user companies setting unrealistic goals? 42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FTC Examines Privacy Issues Raised by Data Collectors

Businesses say restrictions could increase their costs, raising prices for consumers

BY PATRICK THIBODEAU
WASHINGTON

The Federal Trade Commission (FTC) is examining how companies exchange personal data and use it to develop profiles of consumers. Such practices, integral to many businesses, are largely invisible to the public.

The FTC is divided on the issue and hasn't yet taken a position on the consumer protection questions that may be involved when companies aggregate personal information to assemble a detailed picture of their customers. The information, which is gleaned from public records and retail databases, can include demographic information such as income, size of family and lifestyle interests.

These data aggregators aren't collecting this information to be "nosy," said Lynn Wunderman, president and CEO of marketing data provider I-Behavior Inc. in Harrison, N.Y. "They are looking to establish a relationship with a customer."

But if businesses are restricted from accessing consumer data, then companies (and, in turn, customers) will suffer from inflated marketing costs, argued Michael Turner, executive director of the Information Services Executive Council, a New York-based affiliate of the Direct Marketing Association.

For instance, detailed consumer information lets apparel retailers market their products to consumers with more precision, he said. But if privacy rules impose restrictions and barriers to data collection, those limitations could increase the prices consumers pay when they buy from catalog or online apparel retailers by 3.5% to 11%, Turner said.

If retailers "can't use external information, they will have to increase their mailings to cast a broader net," said Turner. Restrictions could drive smaller companies out of business, he said.

Privacy advocates concede that there are business benefits to sharing personal data among companies. Still, others maintain that there "is a need to bring consumers into the loop," argued Mary Culnan, a professor of management and IT at Bentley College in Waltham, Mass.

Many privacy notices posted on retail Web sites fail to inform online shoppers that their personal data is being shared with companies that compile the information for profiling purposes, Culnan claimed.

FTC Chairman Robert Pitofsky said the commission isn't preparing any policy or legislative recommendations on this issue.

"We are not looking for enforcement targets," Pitofsky said. "We're trying to find out in a new area — a fast-changing, dynamic area — what's going on."

But FTC Commissioner Orson Swindle, who may take over as chairman when Pitofsky's term ends in September, said additional laws regulating the exchange of data among companies may not be needed. Swindle is a Republican; Pitofsky is a Democrat.

"I believe that issues related to the real harm that might be caused by this are well addressed by existing [consumer protection] laws," Swindle said. He acknowledged that there is a "great distrust" between consumers and companies regarding the use of personal information.

Swindle's view may soon become the prevailing one for the commission. Members appointed by Democratic presidents currently hold a 3-2 majority on the FTC. But President Bush is expected to name a Republican to replace Pitofsky, which would swing the advantage in the other direction. ◗

Data Compilers

Companies that **assemble information** from various sources, including public records, surveys, mailing lists and geographic and demographic records, and then use it to update customer records can offer businesses **better targeting information.** Businesses can also assemble data through **cooperative, data-sharing arrangements.**

KEVIN FOGARTY

Caution or Cowardice?

OK, TIME FOR A QUICK LESSON on the difference between caution and cowardice: Caution means deciding against walking into your CEO's office with an expensive IT project the week he lays off thousands of people. Cowardice means not doing it the week after that, either.

I know, the economy's slowing -- production and retail sales are down, inventories are up, Wall Street is tanking and the pressure on CEOs is building. This isn't a comfortable time to work in a public corporation, especially in technology departments that have traditionally been considered cost centers, not sources of revenue.

The natural tendency for IT types is to circle the wagons and defend against raids on their budgets as the company prepares for a siege.

That's already happening, according to vendors like Oracle, Compaq and Cisco, which have all blamed lower-than-expected orders for their own earnings disappointments.

And they're not sure when orders will pick up again.

"I don't think anyone in this room can tell us what capital spending will be in the next four quarters," Cisco CEO John Chambers told an audience at a Merrill Lynch conference in New York earlier this month.

Much of that drop-off, of course, comes from the flameout of dot-com companies that channeled what VC funds they didn't spend on lattes and ping-pong tables directly to tech vendors.

KEVIN FOGARTY is *Computerworld*'s features editor. Contact him at kevin_fogarty@computerworld.com.

But a lot of it is also coming from mainstream companies. At a recent off-the-record *Computerworld* lunch, three of five Boston-area CIOs said they expected their budgets to drop by about 3% this year, partly because of the economy and partly because, after a rapid increase in e-commerce spending over the last two years, their Web projects are relatively stable.

With the dot-bomb phenomenon clearing out competition from start-ups, none felt the competitive frenzy they did last year.

That's understandable, but it's a mistake, according to a recent report from Mercer Management Consulting, which found that, of 800 companies it studied during the recession of the early '90s, those that acted most complacently or defensively during the downtimes were in the worst shape during the next boom time.

But companies that are smart enough — and courageous enough — to take advantage of a downturn can make a killing if they offer new products or services that are well designed, and well targeted. Not only can they expand into new areas almost without competition, but they can do it for a customer base that will appreciate not only the new offerings but also the effort spent producing them.

"The revolution is truly about driving business using technology by consistently adding value for your customers," says Tal Elyashiv, vice president of IT at Capital One, a credit card issuer in Falls Church, Va.

Analysts credit Capital One's sophisticated data mining and risk analysis methods for fueling growth from 6 million customers in 1995 to 34 million last year.

The analyses are part of a long-term customer retention strategy that has taken years of work — and investment — to develop.

"Do you look at IT as a cost, or as an investment in your business? Is it a necessary evil or an important tool?" Elyashiv asks.

No IT shop can expect to sail through a serious business setback without some setbacks of its own — canceled projects, maybe even layoffs.

But any tech-oriented business manager who doesn't see a downturn in the economy as an opportunity to develop new business opportunities doesn't deserve the label "IT Leader."

"The question is not how I cut costs, but, 'How can I make an investment that is enduring for the long term?' " Elyashiv says. "And the only thing that endures is the customer." ◗

WebMD Struggles With Privacy Rules

BY JULEKHA DASH

A data-sharing dispute between two vendors highlights the difficulties faced by health care companies as looming government regulations have forced them to review and alter their privacy policies.

Citing privacy concerns, Atlanta-based WebMD Corp. late last month decided to stop submitting customer data to Quintiles Transnational Corp., a WebMD business partner that uses the information to perform market research for pharmaceutical makers and other health care companies about the effectiveness of their products.

But a North Carolina state court and, subsequently, U.S. District Court Judge Terrence Boyle ordered WebMD to continue the unaltered flow of health claims data to Durham, N.C.-based Quintiles.

The Health Insurance Portability and Accountability Act (HIPAA) has prompted health care firms to "take privacy more seriously than in the past," said Richard Telesca, an analyst at Cambridge, Mass.-based Giga Information Group Inc.

Lawmakers released the final HIPAA regulations, which Congress passed in 1996, in several stages last year. The final privacy rule, which former President Bill Clinton announced just days before leaving office, would require health care providers, clearinghouses and insurers to protect the privacy of both written and oral patient information.

Barring any changes from the Bush administration, firms will have until April 14, 2003, to comply with the rules.

Failing to do so could result in stiff fines, possibly even jail time.

As a result of last year's acquisition of Toronto-based electronic health claims processing firm Envoy Corp., WebMD would qualify as a health care clearinghouse and be subject to the HIPAA regulations, said Stacey Rich, an analyst at Jupiter Media Metrix Inc. in New York.

"It's negligent not to review" your privacy policy if you're a company affected by HIPAA, said Rich.

But that's not always easy, as the WebMD case illustrates.

In spite of the judge's order, the data-sharing feud hasn't come to a close. As of last week, the companies were still negotiating ways to address patient privacy concerns. They had agreed to some data modifications prior to the federal judge's ruling. For example, patient ZIP codes will contain two to three digits rather than five, and birth dates will include only the month and year, but not the date, said Quintiles spokesman Pat Grebe.

In a statement, WebMD said it would continue to provide data to Quintiles because the company certified that it has "cleansed" its databases of information that could be used to identify patients.

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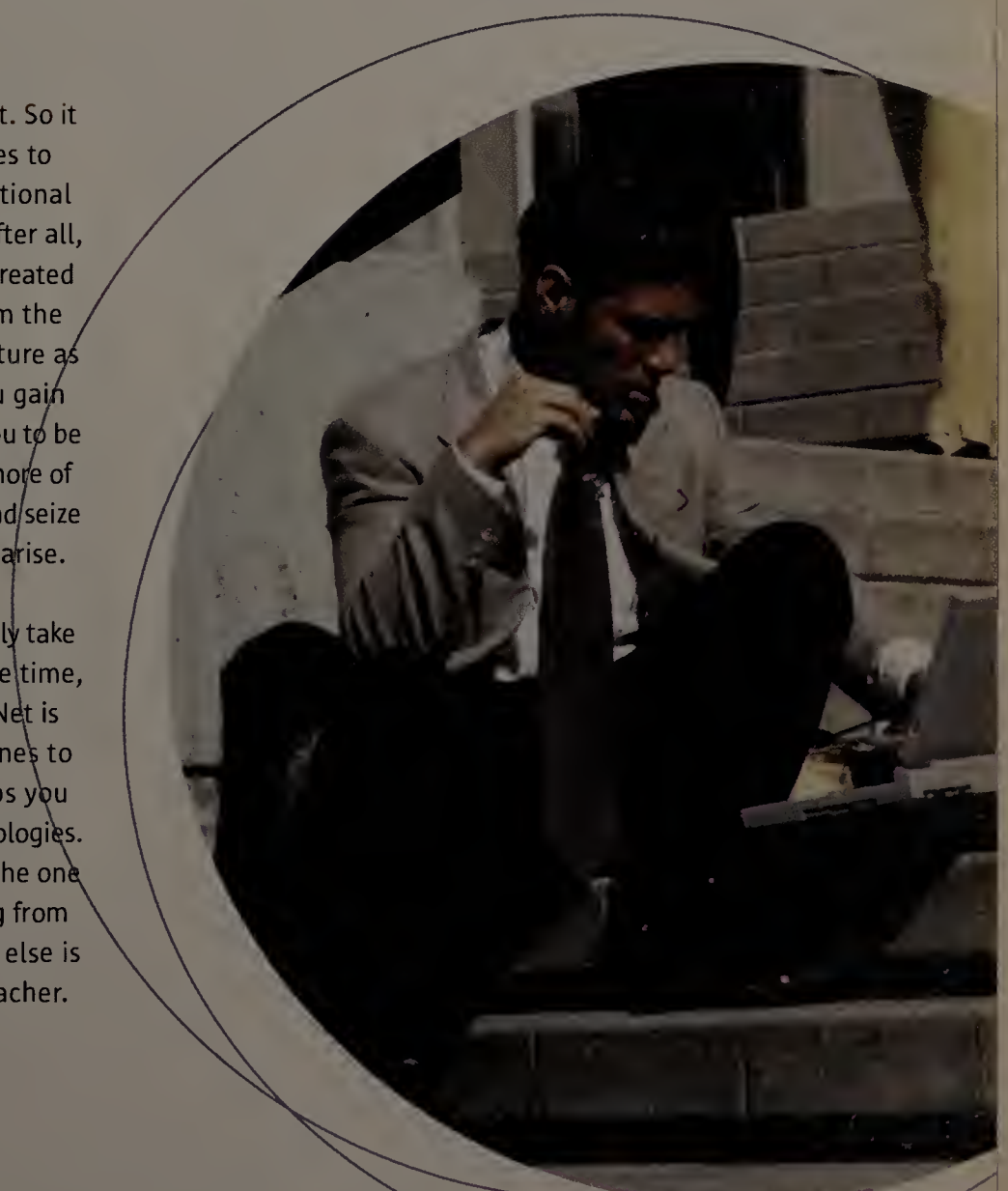

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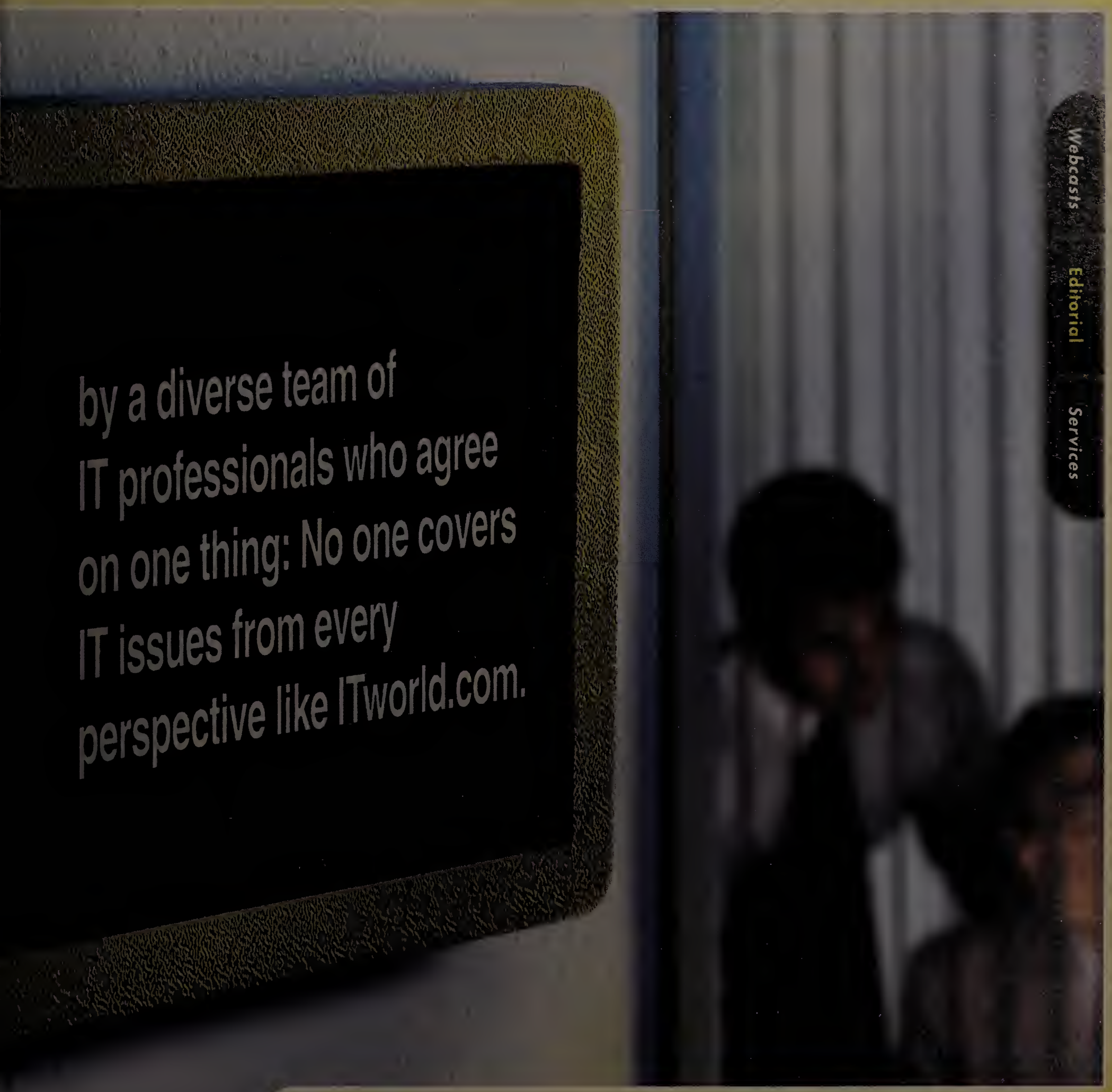

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Weight-Loss Firms Build Web Communities

BY JAMES COPE

Advertising alone doesn't create a strong bond between product and customer. Yet that relationship is critical when it comes to gaining and keeping market share, particularly in a membership-driven business.

Tapping into customer needs for support, top weight-loss firms like Slim-Fast Foods Co. and Weight Watchers International Inc. have turned to the Web.

Joanne Moscato, interactive director at West Palm Beach, Fla.-based Slim-Fast, is banking on a kind of virtual support group her firm launched last month at SlimFast.com that pairs up two or three people.

The Buddy Program site functions like an online dating service, according to Daniel Singer, Web technology director at Rotterdam, Netherlands-based Unilever NV, which makes SlimFast's diet products. "You enter some information about yourself . . . and the system creates a profile," Singer explained. Users can then search for a compatible buddy with whom they can correspond via private e-mail.

The buddy idea is a powerful concept, said Robert Drevs, an assistant professor of marketing at the Mendoza College of Business at the University of Notre Dame in Indiana. Pairing up buddies amounts to managed instant messaging, he said. And along with bulletin boards, it lets people create a community of like-minded consumers.

Sense of community is a big driver for WeightWatchers.com Inc., said David Kirchhoff, the New York-based company's vice president of strategy and business development. The site, which got a face-lift last month, has enjoyed a 500% increase in traffic during the past 12 months, he said.

The reworked design also delivers Weight Watcher's new eTools. These applications let users create personal Web-based weight-loss programs and automate meal planning through an online recipe book. The site even features a panic button that members can turn to if they feel a chocolate craving coming on.

But eTools comes with an interesting marketing caveat: Users must enroll for local Weight Watchers meetings to use the applications, which Kirchhoff said helps bond customers with the brand.

Barbara Barry, vice president of marketing at Jenny Craig Inc. in La Jolla, Calif., said she's less interested in building relationships via the Web than she is in using it to drive customers to Jenny Craig centers. About 25% of customers get information on store locations through the Internet, she said.

But Emily Meehan, an analyst at The Yankee Group in Boston, said online communities act as virtual focus groups, providing marketing data that might otherwise cost hundreds of thousands of dollars.

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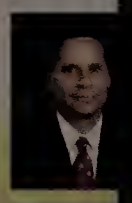

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Editor's Note

Our second annual Premier 100 IT Leaders survey was a whopper. It was the kind of questionnaire that some shrink from — dozens of questions that covered everything from mentoring programs to leadership style. Several essay questions probed candidates on topics such as recommending and implementing change, influencing direction and inspiring staff. We also asked candidates how they fostered communication among business executives. Their answers were candid and insightful. So it was with great deliberation that the list of Premier 100 IT Leaders for 2001 was chosen.

Here's how the process worked. Last fall, *Computerworld* sent out a call for nominations. More than 500 responded with nominations of IT leaders at their companies. Those nominees were then asked to fill out our survey. *Computerworld*'s research group, led by Allison Wright, and a team of editors then began the process of evaluating the surveys. Those leaders who most closely matched *Computerworld*'s Leadership Index, a set of characteristics that describes business and technology people who guide the effective use of IT in their organizations, were named to our list.

Our aim is to honor individuals who have had a positive impact on their organization through technology. These are people who mentor and motivate with interesting challenges and positive work environments, envision innovative solutions to business challenges and effectively manage and execute IT strategies.

We also asked candidates what big challenges they're facing in the coming year. Their answers form the hot topics in this issue: wireless, globalization, outsourcing and, of course, leadership skills.

And so our Premier 100 IT Leaders community grows twofold. We shine our spotlight on the 100 leaders listed here and tip our hats to the hundreds more who will shine unheralded in their day-to-day work throughout the year.

— Ellen Fanning, Editor

MORE ONLINE For more resources for the IT leader, including links to stories on leadership topics and more profiles of our honorees, visit *www.computerworld.com/premier100.*

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The Customer Is Always Right. IT leaders are learning the golden rule of business and gaining new skills in the process. *By Amy Helen Johnson*

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The Premier 100 IT Leaders. The 100 IT professionals who are leading the industry.

Lighter Side/50

Leaders Soup. Most of our Premier 100 IT Leaders work long hours with their staffs, and so their lives are an open book. But they still had a few gems to share when we asked what their staffs would be surprised to learn about them.

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André Mendes, senior vice president and CIO at PBS, says leadership comes from within: "I can't remember ever not wanting to be a leader. ... It's part of my reptilian brain."

Even IT leaders need to learn the softer side of management. Some Premier 100 honorees tell us their secrets for successfully leading their staffs

BY LESLIE JAYE GOFF

FINDING YOUR INNER LEADER

As a 6-year-old in Portugal, the daughter of middle-class parents, Cecilia Claudio proudly announced to her family that she would someday own a Mercedes. She doesn't know how the idea popped into her head, and it wasn't really a materialistic dream. The Mercedes was just an evocative symbol of her emerging inner drive.

"I just had a vision of what I wanted to do and accomplish," says Claudio, now CIO at Farmers Group Inc. in Los Angeles. And while that 6-year-old's vision manifested itself in the form of a Mercedes, rather than "I'll be a CIO when I grow up," her childhood dream speaks to a fundamental question about leadership: Are leaders born or made?

The IT professionals on *Computerworld*'s 2001 Premier 100 IT Leaders list share certain elusive traits that can be shaped, refined and polished with time and training but can't really be taught: a sense of purpose, a willingness to take risks, ambition, tenacity, zeal.

"There's an equal component of nature and nurture in leadership, but I can't remember ever not wanting to be a leader," says André Mendes, vice president and CIO at the Public Broadcasting Service (PBS) in Alexandria, Va. "That's a very strong command from within — it's part of my reptilian brain. I'm almost in a panic situation when I'm not in command."

But leading isn't about taking control. In fact, 97% of *Computerworld*'s Premier 100 say they make decisions by soliciting input from direct reports and seeking consensus. Only 2% say they make decisions on their own.

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PHOTO BY KATHERINE LAMBERT

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Rather than control, leading is ultimately about an inner urge to make an impact, rooted in a deep sense of caring and compassion. Even the reptilian brain must find its soul.

"It ends up being about caring about the people," Mendes says. "I don't know if it's a character trait or a character flaw, but when I see staff in [a bad] situation, I want to rescue them and give them direction and a sense of accomplishment."

It's by focusing their attention on their people that Mendes and others emerge as true IT leaders, the ones who get the results that make their IT organizations key contributors to the business.

When Mendes, Claudio and Rickie E. Hall, vice president and CIO at ANC Rental Corp. in Fort Lauderdale, Fla., joined their respective employers, each inherited an IT staff that felt demoralized in a department disconnected from the business. In each case, the CIOs had their own ideas about what the problems were and how they could be resolved. But instead of foisting a strategic plan onto an already dispirited staff, each took the time first to listen to what their staffs had to say.

"The most important thing a CIO can do is create an environment where people can succeed," Claudio says. "The people in my IT group are the most important asset I have for my success and the company's success. So they have to feel that they are in control of their destiny, because when they're not, a sense of doom comes upon them."

Farmers was deeply entrenched in legacy systems and functioning mainly as a support operation when Claudio came on board in 1998. Her mission, handed to her by the company chairman and CEO, was to transform IT into a strategic business partner that could help Farmers become a more customer-facing company.

A key step to the long-range goal would be to outsource legacy applications development and support. But Claudio's first move was to enlist her staff in the mission by focusing on how she could boost their morale. She conducted a confidential employee satisfaction survey and from the responses devised a six-point plan leading to a redeployment of the staff into more meaningful jobs.

She held a department-wide meeting and promised, " 'Over the next few months, you will see a new IT created,' " she recalls. "Of course, their response was, 'Yeah, we've heard that before. Whatever.' "

To gain their confidence and support, Claudio started with small steps. Although Farmers had a formal corporate culture, she persuaded executive management to allow business-casual dress in IT. Next, she guaranteed each staff member the time and money to attend training in two new technologies of his choice.

As she delivered on each of the six promises, the staff's belief in her vision grew. When it came to outsourcing the legacy systems, rather than creating anxiety and despair, the announcement generated enthusiasm.

"I said to them, 'The jobs you're doing today aren't keeping you current in the marketplace,' " Claudio explains. " 'I want you to have confidence in your ability to sell yourself to any IT organization, but I want you to [choose] to stay at Farmers. So I want you to develop a tool kit so you'll have the choice.' And the sign-on was incredible."

By listening, focusing on changes that improved not only IT's impact on the business but also the lives of the people in IT and communicating the changes in those terms, Claudio garnered the staff's loyalty. In just under three years, Farmers' IT turnover has dropped from 15% to 7%. About 15% of the 1,500-plus people on her staff have been reskilled and redeployed, and she expects another 100 people to transition into new jobs this year.

Mendes took a similar tack when he joined PBS in 1998 as senior director of client/server development. He faced an IT group that was viewed as "menial, janitorial," he recalls, and he set out to raise the enthusiasm for IT across the company and within his department. Mendes met one-on-one with each of PBS's 45 IT staff members to discuss where they saw themselves in the organization at that time and in the future.

As he mapped out a three-year plan to recreate IT as a true partner to PBS, he simultaneously drew up individual career paths for each staff member, taking their goals into account, and detailed their respective roles in the turnaround.

"That must have worked because people started producing at a remarkable rate," Mendes says. "There was revolution in their own spirit."

At ANC, Hall inherited an IT staff that felt unfairly blamed for a misguided outsourcing arrangement. Anxiety was running high on both the IT and business sides of the company, and it fell to Hall to mend the bridge — and the outsourcing deal. Like Mendes and Claudio, Hall undertook a discovery process to assess not what went wrong, but what people wanted to change.

Taking a lesson from management guru Stephen Covey, Hall approached the problem "with the end in mind," she says. Reaching out to all three parties — IT, business managers and the outsourcing vendor — she started each conversation with a

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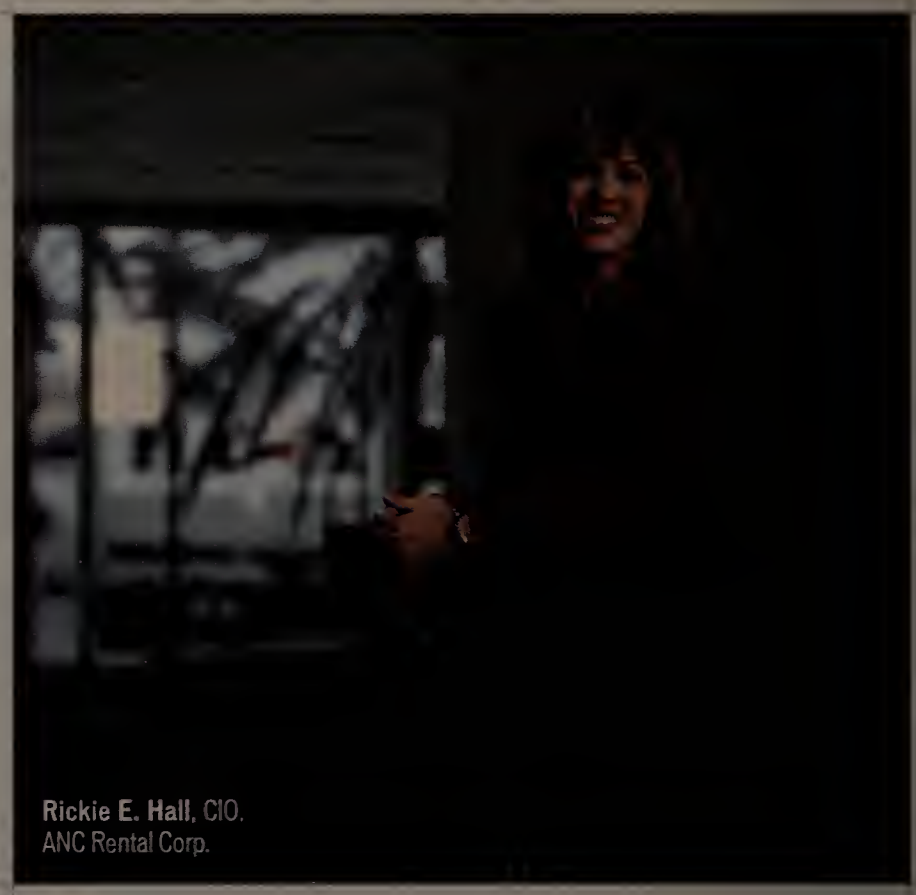

Rickie E. Hall, CIO, ANC Rental Corp.

PHOTO BY PAUL MORRIS

CIOs on Language

Follow André Mendes down the halls of PBS on his daily walkabouts in the IT department, and you might think everyone has a Ph.D.

Mendes addresses each of his 43 staff members as "Doctor," as in, "How's it going, Dr. Jones?"

But he isn't acknowledging academic achievement. Rather, the title has become part of the PBS IT lexicon, stemming from a motivating metaphor Mendes articulated when he first set about transforming the IT department into a strategic business partner. "I told them that we were like an ICU staff, that we had a critical patient that had to be stabilized, and we all had to work in concert," he says. "And when that was done, we had to look at how we could become doctors of preventative medicine and help increase the life potential of this healthy patient. So, I started calling them 'Doctor,' and they get a kick out of it."

Mendes and other *Computerworld* Premier 100 IT leaders have each discovered the power of language in rallying their staffs. It's one of the techniques they use to help establish a vision for their mission and effectively build a sense of community within the IT organization.

Searching for a way to mobilize the staff of fledgling Delta Technology (DT), Delta CIO Bob DeRodes inadvertently hit on a phrase that became a rallying cry. He had gathered a large group of staff members and was presenting his long-term vision for DT.

"I explained to them that DT is nothing but a piece of paper in a file drawer in New York City, where we're incorporated," he says. "The company only becomes real when all the individuals in the company take ownership and believe that they are the company. So I told them, 'From this day forward, I want everyone to know that I am DT.' "

Immediately following the statement, DeRodes ran a video of individuals within the company asserting, "No, I am DT," "No, I am DT," "No, I am DT." Not only did it get a good laugh, "everyone saw that they have a personal role in helping this company achieve the vision," DeRodes says.

Fashioning a unique departmental tongue is just an extension of IT's natural predisposition and reinforces the bonds among staff members, says Kevin D.E. Book, senior director of technology at The Motley Fool.

"To pretend that the culture of IT is the same as the culture overall is a fallacy," Book says. "We're techies, and we think in techie terms."

So, the application developers at The Motley Fool, in a nod to Xerox's PARC (Palo Alto Research Center), refer to themselves as DORCs, for Development-Oriented Research Center. They measure one another by their "dorc-ishness," referring to their ability to innovate. Programming skills are "sauce," as in, "How strong is his sauce?" Technical conversations are peppered with musical references: "Has this application got chops?" or "How can we up the tempo here?"

"For a while, they were referring to business users as 'Normies.' But I refused to use the word because we shouldn't distinguish between business and IT," Book explains. "So we all regale each other with our funny vocabulary, but the business as a whole is what's truly important."

– Leslie Jaye Goff

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question: "What does success mean to you, and how can we get there from here? Let's not get bogged down in the minutiae of what's happened, but focus on the end."

Within six months of arriving at ANC, Hall had the outsourcing arrangement back on track. At the same time, she fostered a new spirit of cooperation between IT and the business side. Key to the turnaround was that, amid an atmosphere of accusation and recrimination, she brought home the message that "IT is a collection of people."

While a leader's sensitivity to individual and collective staff needs is perhaps most starkly visible in times of major transformation, high-caliber leaders demonstrate it every day. They create a sense of community and inspire camaraderie among their staff members by recognizing individuals as more than just employees and by making themselves available at all levels of the organization.

"Strong leaders have to care about people; it has to be part of their DNA," says Bob DeRodes, president and CEO of Delta Technology (DT), the IT arm of Delta Air Lines Inc. in Atlanta. "I have a philosophical view that employees need more than just compensation. They need to feel involved, to learn, grow and have fun."

DeRodes, who also serves as the airline's CIO, has appointed a "director of fun" at DT who has organized on-campus events such as a family carnival for Bring Your Kid to Work Day, live performances, a hallway dedicated to art exhibits and "Intellectual Fitness Clubs" for employees to discuss books, music and other topics of personal interest. Aside from "stimulating their intellectual side," DeRodes says, the clubs have enabled employees to make connections with co-workers to help solve on-the-job problems.

The personal touch sometimes also means that leaders let their guards down. In an extraordinary show of humanity, Kevin D.E. Book, senior director of technology at The Motley Fool Inc. in Alexandria, Va., revealed to his staff the details of his personal life that he had never even shared with close friends.

On Feb. 2 last year, a member of Book's staff committed suicide. "It shocked all of us and left a huge hole in our hearts and our morale," Book says. "None of us had had any indication of his struggles. He was a gifted programmer, a great guy, and now he was gone."

So while Book followed corporate crisis management protocols, he felt that the situation merited an extra level of intimacy. He convened his staff to talk through their grief and, in that context, shared his own experience of growing up with a depressed family member. Despite the potential risks of bringing his personal life into the workplace, Book says, "I felt called to share what was in my heart and what I had learned through long, painful experience." Taking his cue, other staff members conveyed similar stories.

"Hours later, we collectively arrived at a positive and encouraging outcome, a sense that together we can survive the world's challenges," Book says. "I think [it] inspired a sense of community that few find in the modern workplace."

Leaders may have certain characteristics etched into their DNA, but that doesn't guarantee that they'll be effective IT leaders. Successful leadership also comes from having the resilience and resolve to identify and overcome personal obstacles.

Claudio concedes that there was a time when she was obstinately unwilling to heed the opinions of others. She was cognizant that she had some "rough edges" and that they were preventing her from being the most effective CIO she could be. But she wasn't sure how to smooth them out.

"I didn't always care for the people who work for me in the way I do today. I didn't always recognize them as part of my success," Claudio says. "I learned that I wasn't always successful because I didn't engage other people — I didn't solicit or respect their opinions. I always thought I had the better answer."

As painful as it was to acknowledge, Claudio, fueled by her own ambition, began an introspective process of understanding and changing how she related to others. She began working with an outside coach who shadowed her at work and interjected feedback on what she was doing well and what she wasn't. It was a difficult experience at times, but she gradually found a growing satisfaction in seeing how appreciated others felt when she sought and acted on their opinions.

"I started to recognize the satisfaction in the people sitting across the table from you when you stop, listen, ask for feedback and concede that their recommendation is the right one," Claudio says. "And then they feel very good, and by default, you feel good. And then you want more of it. It's like a body in motion stays in motion."

It was a hard-won lesson, and one she persistently keeps in view. "I'm not perfect," she says. "I have to remind myself every day that my success depends on the people around me, and that I'm also responsible for their success."

And, yes, Claudio now drives around L.A. in a burgundy Mercedes 300CW Coupe. ◗

Goff is a freelance writer in New York.

> "STRONG LEADERS HAVE TO CARE ABOUT PEOPLE; IT HAS TO BE PART OF THEIR DNA."
>
> – BOB DERODES, PRESIDENT AND CEO OF DELTA TECHNOLOGY, THE IT ARM OF DELTA AIR LINES INC.

Dream Jobs

If Cecilia Claudio weren't a CIO, she says she might be running a vineyard in one of California's fertile valleys. The fantasy reflects something that runs deep in her leadership style. The appeal is rooted in coaxing from the soil something that wasn't there before, nurturing it, seeing it reach for the sun and sky, and harvesting its bounty.

Since arriving at Farmers Group Inc. in 1998, Claudio has cultivated a totally new perspective in IT, transforming her staff from a legacy-application-centric group into an upward-reaching staff intent on acquiring new skills.

Ask IT leaders about their dream jobs, and you're apt to find in their choices a parallel to what they're doing today, one that mirrors the leadership style they have refined and polished along their way to the CIO's office.

Kevin Book, senior director of technology, The Motley Fool Inc.

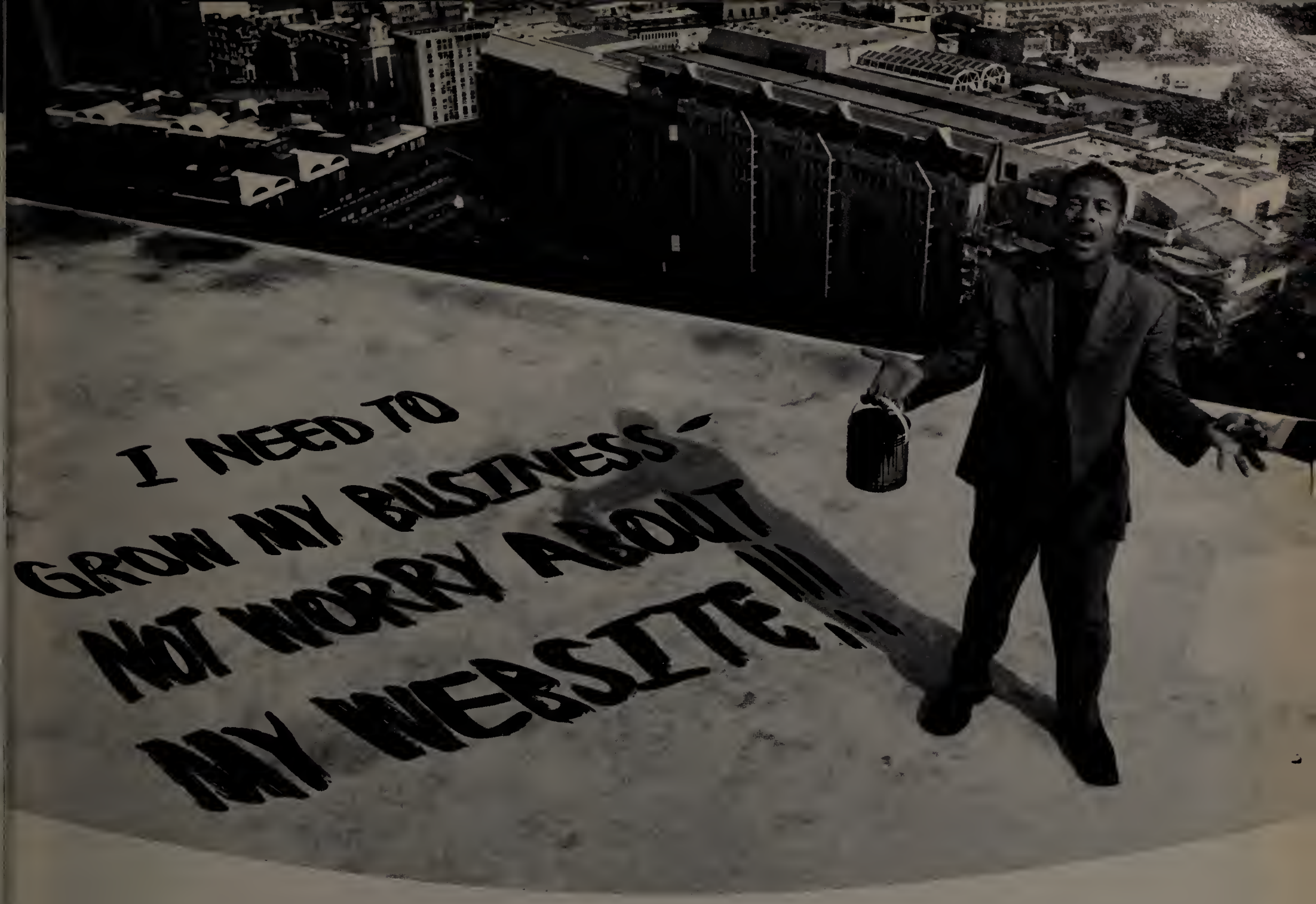
PHOTO BY KATHERINE LAMBERT

Kevin D.E. Book's dream job is White House chief of staff. The Motley Fool's senior director of technology, who reports to the CIO, explains: "My joy isn't standing up and being the person who takes credit, but the person who finds a solution to make things happen." And who is more closely aligned with what happens in the White House but more behind the scenes than the chief of staff, he notes.

At ANC Rental, parent company of National Car Rental and Alamo Rent-a-Car, CIO Rickie E. Hall came into an IT organization that had been demoralized by an ill-fated outsourcing arrangement and immediately set about making over her staff from disappointed and downtrodden to confident and empowered. Her dream job? Motivational speaker.

"Motivational speakers pump you up and make you feel anything is possible," Hall says. "You come out rejuvenated and feeling so positive. What a great thing to do – helping people see that things can be better, and they can be better."

– Leslie Jaye Goff



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IT leaders are learning the golden rule of business and gaining new skills in the process

THE CUSTOMER IS ALWAYS RIGHT

BY AMY HELEN JOHNSON

Two years ago, The Hartford Financial Services Group Inc. answered all customer e-mail manually. No more, says David H. Annis, group senior vice president and CIO at the Hartford, Conn.-based insurance company.

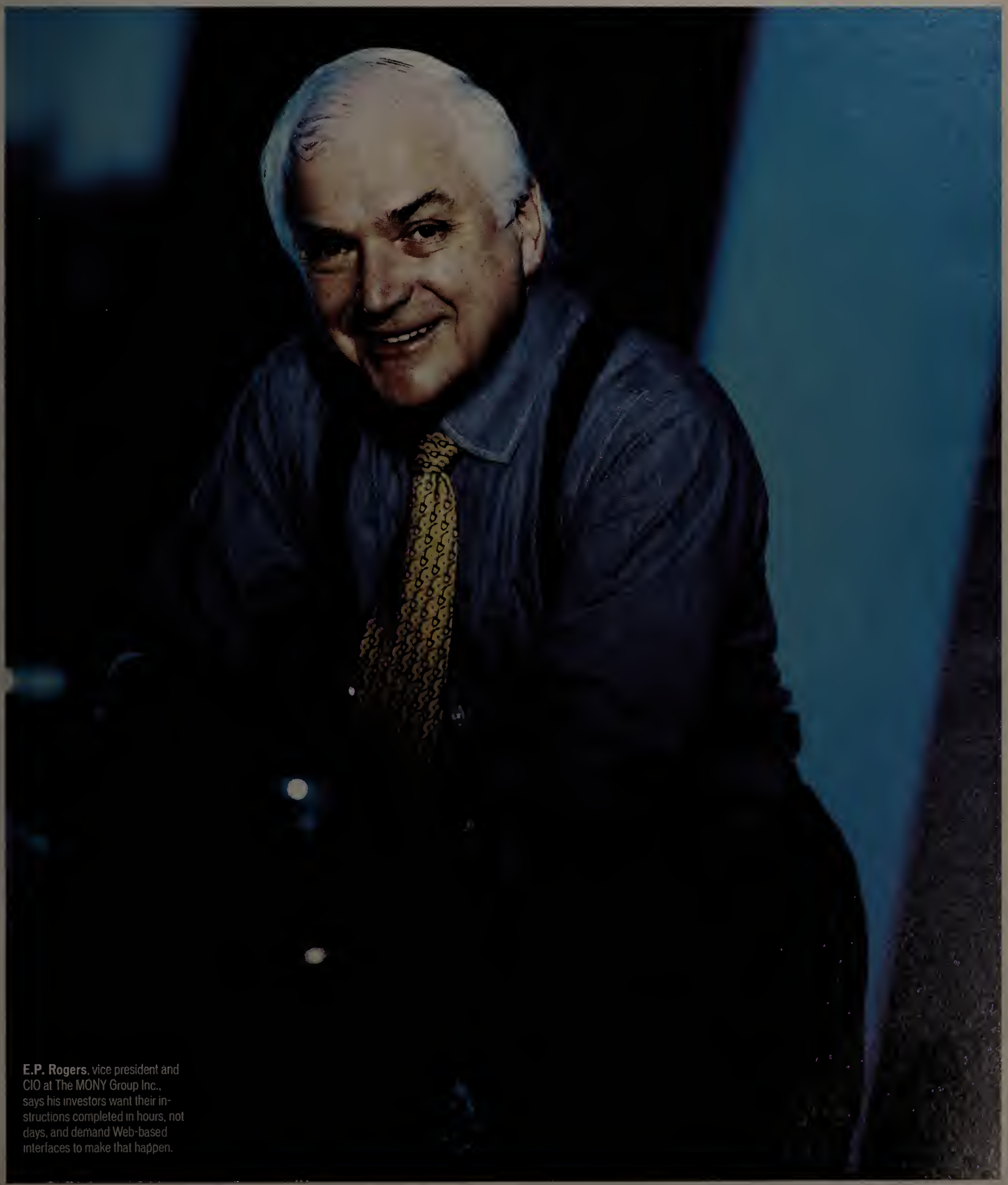
A sharp increase in volume prompted Annis' group to install an automated e-mail response system from Kana Communications Inc. in Redwood City, Calif. It's just one of the new responsibilities that The Hartford's IT organization has shouldered in the face of a changing customer service environment, Annis says.

The Hartford must now be ready and able to support many new ways to interact with customers, such as Web sites, call centers and interactive voice-response systems. "It's the customer who makes the choice, not us," says Annis.

A majority of the IT leaders chosen for this year's Premier 100 awards reported that customer service (70%) and customer privacy (53%) initiatives were critical to their businesses last year. And the numbers are increasing: 80% of those leaders listed customer service as a critical business issue for this year, and 60% cited customer privacy.

This focus is changing their jobs, they report. They have transformed their departments' internal processes so that they're geared toward short, focused goals. They're running new training programs that put staff members in the field to gain firsthand knowledge of their companies' customer service needs. These IT leaders are also working with new employees,

Continued on P14



E.P. Rogers, vice president and CIO at The MONY Group Inc., says his investors want their instructions completed in hours, not days, and demand Web-based interfaces to make that happen.

Continued from P12

like usability experts and chief privacy officers, because companies are operating under more restrictions as consumer privacy and security expectations become embodied in laws. These leaders are learning new technologies, like security software, customer relationship management tools and interactive Web applications.

Satisfying customers, both internal and external, is becoming a top priority. "Virtually everything we do is customer service-oriented," says Brian T. Light, senior vice president and CIO at Framingham, Mass.-based office supplies retailer Staples Inc.

Demanding Business

Customer service is a major responsibility for IT departments for several reasons, say IT leaders. Sales and customer interaction are increasingly occurring over the Internet, and high growth is forcing changes to systems aimed at internal customers.

Customers of The MONY Group Inc. used to be content with sending instructions by phone or postal mail or dealing with their financial adviser, says E.P. Rogers, vice president and CIO at the New York-based financial services firm.

Now, he says, his investors want their instructions completed in hours, not days, and they demand Web-based interfaces to make that happen. His department's efforts at beefing up MONY's online presence and putting internal customer management tools in place are in response to this demand. "We have a long tradition of high-quality customer focus, but we haven't always had the technology behind it to support it," he says.

At online businesses like Drugstore.com Inc., nearly all the burden of customer interactions falls on the IT department. The IT group takes its customer service projects very seriously, says Sean Nolan, vice president of technology and chief technology officer at the Bellevue, Wash.-based pharmaceutical retailer.

"We're in a replenishment retail business," he explains. "So for us to be successful, we need long-term customer relationships."

Many customer service projects aimed at internal users are efforts to streamline processes throughout a distributed organization. When Krispy Kreme Doughnut Corp. in Winston-Salem, N.C., launched a rapid expansion through franchising three years ago, it also started a parallel effort to improve internal customer service systems, says Frank Hood, vice president of information services.

The pastry company turned to Web-based thin-client applications to gain the ability to scale rapidly, says Hood, prompting a wholesale replacement of internal systems and new IT department responsibilities for data collection and distribution.

Selling Pencils, Driving Trucks

Regardless of the impetus for change, IT leaders have similar strategies for handling their customer service responsibilities.

When managing Internet projects, Rogers says, it's important to operate on Internet time. That means his department plans 90-day projects — a significantly faster schedule than the three to four years given to the Cobol projects of old.

At Krispy Kreme, Hood says he uses six-week deliverables and self-directed teams to create an entrepreneurial culture that emphasizes responsibility and speed. Both Krispy Kreme and Staples try to instill in their IT employees a sense of the company's customer service challenges by having them work at line jobs. Hood says his crew of 22 is a mix of people who range from relative newcomers to 48-year company veterans, some with doctorates and some with associate's degrees.

What they have in common, says Hood, is that they all know how to sell doughnuts. And if they don't come to the job knowing that, he teaches them. For a limited period, they work in a store selling directly to customers or drive a truck to deliver goods to the company's wholesale customers, he says.

Light runs a similar training camp at Staples. His IT staffers spend time on the floors of the company's retail stores, in the call center taking orders or at the distribution centers fulfilling orders. This helps them understand the challenges faced by the employees who will be using the applications they create, he says. An IT staffer may think it's trivial to add an extra click to an order entry program, Light says, but it can be a big burden to the phone operator using it. "There is no better way to [understand] that than to get the IS associates into the stores," he says.

IT leaders say an emphasis on customer service gives them new job titles and encourages them to interact with employees, both inside and outside the IT department. In an online retail environment, usability becomes a key issue, says Light. Retail customers don't get trained, he points out.

For the past year, Staples has had a full-time, 4.5-person usability group, he says. The group brings people into a ministudio, where they're filmed while using the online catalog, and their responses are timed and analyzed, he says. The group also interviews customers, conducts focus groups and observes customers while they're using the site. In addition, Light has sent about half of his staff to an off-site class to learn usability skills.

Private Matters

With more and more customers' personal information being transmitted over the Internet and stored in corporate databases, keeping that data secure and private is becoming a major responsibility among IT leaders. "We're trying to be sensitive to

Continued on P16

> "WE HAVE A LONG TRADITION OF HIGH-QUALITY CUSTOMER FOCUS, BUT WE HAVEN'T ALWAYS HAD THE TECHNOLOGY BEHIND IT TO SUPPORT IT."
>
> – E.P. ROGERS, VICE PRESIDENT AND CIO, THE MONY GROUP INC.

Security Technologies to Watch

Looking ahead, IT leaders have their eyes on new technologies that shoulder the double duty of ensuring data security and privacy and making their businesses more efficient. Last October, federal legislation – the Electronic Signatures Act – gave digital signatures a legal status on par with written ones for commercial transactions.

That could benefit The MONY Group, says E.P. Rogers, the company's vice president and CIO. Using digital signatures could streamline the authorization of financial transactions. Rogers says digital signatures may become acceptable to his industry and his customers within a few years.

At Drugstore.com, CTO Sean Nolan is also keeping watch on digital signatures. Medical records are currently subject to tight restrictions on their release and distribution. Nolan says he hopes this security and authorization technology can automate the transfer of medical information to his databases, easing what's currently an awkward step for the company's customers when they order prescription drugs.

At The Hartford Financial Services Group, senior vice president and CIO David H. Annis says he sees possibilities within new identification technologies, like digital certificates and biometrics. The Hartford has a dedicated technologies futures team that tracks developments like these. The futures team is a means for The Hartford to adopt new technologies when key factors fall into place, he says. The team is looking not only at technical factors but also at the business case. For example, the major business issues for adopting digital certificates are the organizational model – who issues IDs and who maintains them – and customer acceptance, Annis says.

– Amy Helen Johnson

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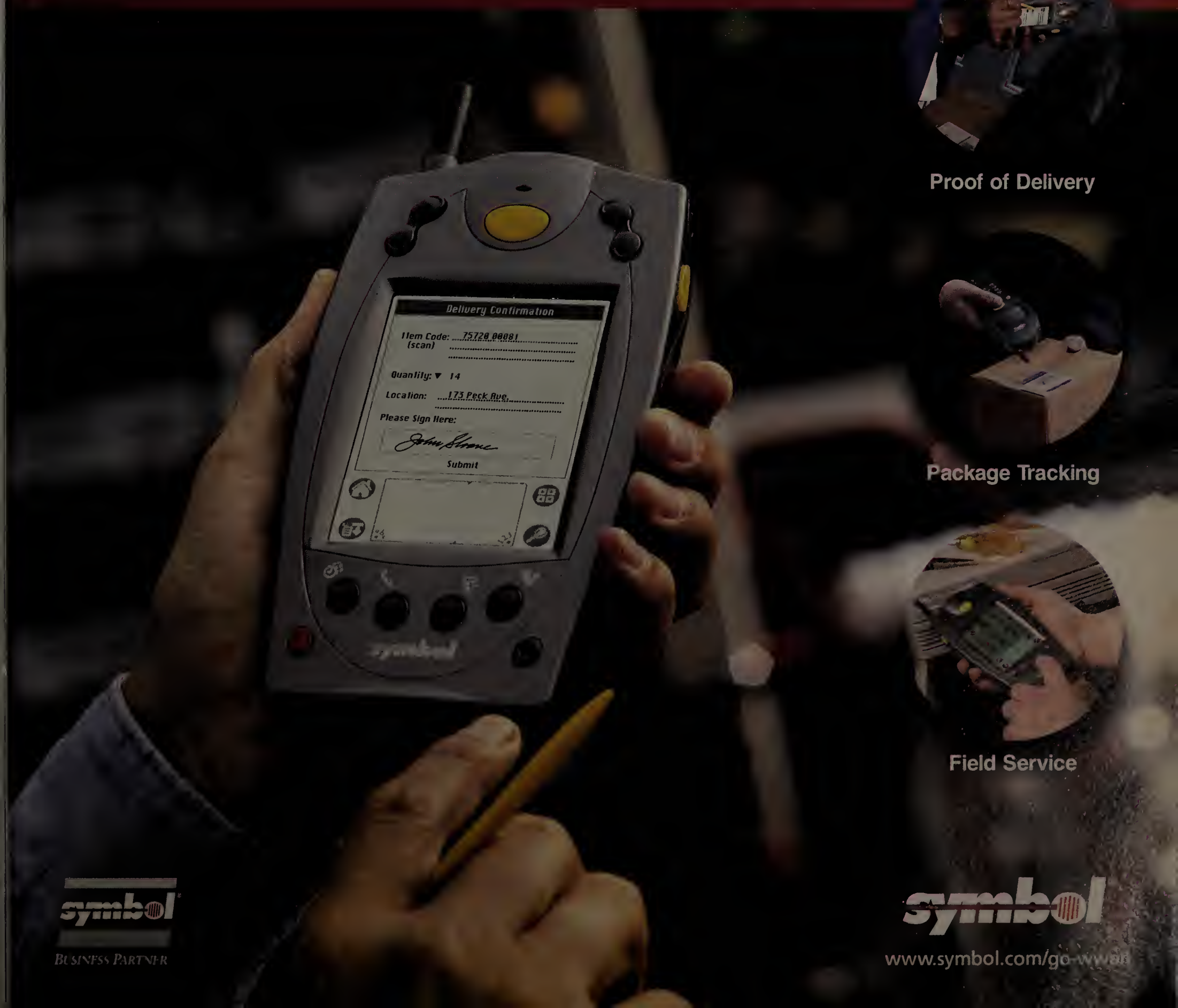

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"WE DON'T WANT CUSTOMER SERVICE TO BE AN ISLAND. WE WANT TO MAKE SURE IT IS AN INTEGRAL PART OF OUR CUSTOMER EXPERIENCE."

– SEAN NOLAN, CTO, DRUGSTORE.COM INC.

Sean Nolan, CTO at Drugstore.com Inc., "We're in a replenishment retail business. So for us to be successful, we need long-term customer relationships."

PHOTO BY DAN LAMONT

Continued from P14

the reasonable expectations of consumers for their privacy," says Annis. As a result, a new job title appearing on corporate organizational charts is chief privacy officer.

At MONY, Rogers works with a chief privacy officer — who is also the company's chief legal counsel — to keep abreast of which privacy regulations the company and its computer systems must comply with. For example, MONY will have to comply with the Gramm-Leach-Bliley Act of 1999, which imposes criminal penalties on financial institutions that fail to protect the privacy of customer information. The purpose of the privacy officer, Rogers points out, is to make sure that MONY stays ahead of the game.

At Drugstore.com, Nolan says he worries about privacy, too. The company has data that falls under laws governing the electronic transmission of individually identifiable medical information, known as the Health Insurance Portability and Accountability Act. Legal compliance is required by 2003.

Along with privacy, security gets the attention of many IT leaders. The Hartford's IT department has a team that writes its security policies, implements security technologies and manages the firm's virus-filtering and firewall software, according to Annis (see story, page 14). He has opted to hire and train dedicated security specialists, because with Web sites and online customer service applications of such importance, the task has become crucial as well as complex, he says.

In the old days, Annis says, an average IT employee could handle security necessities. Now, he says he must worry about providing security not just for 25,000 employees but also for the company's hundreds of thousands of independent sales agents and millions of customers using Web-based applications. "There's a whole new level of risk," he says (see story at left).

Tech School

Along with boning up on security technology, Annis has had to learn a slew of Web and customer management technologies, including customer relationship management (CRM) systems, he says. The Hartford has multiple CRM systems, from homegrown databases used by the annuities department to a software package from San Mateo, Calif.-based Siebel Systems Inc. used at the company's call centers.

Running customer systems is a large part of many IT leaders' jobs. Light spent nine months on a project to knit together data from all of Staples' sales channels — Web site, printed catalog and retail stores — into a single customer file. Not only will those links help customers by giving Staples employees access to complete customer histories, but combining them also makes it easier for employees to do their jobs. Those kinds of dual benefits are common at Staples, says Light.

"A lot of people look at customer service as supporting end users," he says, "but we also look at what we can do to help our business."

Web technologies are another area of necessary expertise for IT leaders. Annis says his company's customer service projects require him to understand applications like Web chat and interactive voice response. Staples is running a text-chat pilot to see if it can provide customer service benefits when buyers call in with questions, says Light.

Krispy Kreme uses the Web extensively to connect its nationwide outlets to an extranet, according to Hood. Web-enabled applications like Lotus Domino are a key part of its infrastructure, he says. At MONY, IT staffers have a whole new set of skills to match the company's commitment to e-business, says Rogers. He's managing fewer Cobol experts and more Java programmers, he says.

As companies seek to gain a competitive advantage in myriad ways, customer service will become a part of every employee's job responsibilities and part of every aspect of an IT leader's job, says Nolan. "We don't want customer service to be an island," he says. "We want to make sure it is an integral part of our customer experience." ◗

Johnson is a Computerworld *contributing writer in Seattle.*

Rethinking Security Risks

Matthew Kovar, a program manager at high-tech consultancy The Yankee Group in Boston, says the old thinking about IT assets needs to be replaced. Instead of measuring success by efficiency objectives such as uptime and application performance, IT leaders should measure success based on having secure transactions among systems, intranets and the Internet, he says.

One way to assess a company's security risk, says Kovar, is to hire a security intelligence service. These companies take a snapshot of your assets – the hardware, the software and the networking resources being used – and return a list identifying the security gaps and the action needed to plug the holes.

While many companies handle their own security technologies and processes, security isn't a core competency for many IT departments, says Kovar. Outsourcing security will become more prevalent, he predicts.

Another change for IT leaders, says Steve Hunt, a Chicago-based vice president of research at Giga Information Group Inc., is the assignment of risk management duties to a chief security officer. This person wouldn't be an IT staffer but would report to the CEO or chief financial officer, he explains, and would approach security duties from the perspective of securing the business, not securing the network. So in the case of threats and emergencies, the chief security officer would weigh the costs and benefits of a company's response based on the business risks.

For example, Hunt says, in the case of a virus attack that brings down the mail servers, an IT-centric response would get the application back up at all costs; a security officer's response would be to stay disconnected from the servers to quarantine the company from further infection.

– *Amy Helen Johnson*

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The Heavy Hand of Uncle Sam in Security and Privacy Protection

Connecting Your Customer
The Next Wave of E-Commerce: Connecting Your Customer Channels

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Conference Agenda

Sunday, May 20

12:00 - 5:00pm
Golf Tournament for Pre-Registered Attendees

7:00 - 8:30pm
Pre-Conference Evening Networking Reception

Monday, May 21

8:15am

Welcome & Opening Remarks
Alan Guibord, CEO, Computerworld
Maryfran Johnson, Editor in Chief, Computerworld

8:30am

Opening Keynote: Going Digital the Old-Fashioned Way: GM's Level-Headed Approach to E-Business
Ralph Szygenda, CIO, General Motors

9:15am

Panel 1:
IT's Mission Impossible: Globalization and E-Business
Panel Moderator: Sarwar Kashmiri, CEO, EbizChronicles.com

Ready or not, the Web is making the globalization of business a reality. But pursuing a global strategy means more for IT than creating a worldwide network infrastructure, setting up foreign distribution or hiring IT talent abroad. Your organization can count on running into a formidable set of barriers: everything from cultural, political and regulatory roadblocks online, to troubles with technology infrastructure, privacy and security concerns, and hiring restrictions. The good news is that an increasing number of countries are racing to make legal and infrastructure improvements to attract foreign businesses. So how does an IT Leader go about getting a grip on strategy to support the enterprise's global business objectives? Our panel will share its collective international experience to send you off with a host of good ideas along with an action-item list.

10:15am
Break

10:30am

Old Rules, New Game: Building Prudential's Global E-Strategy
Irene Dec, VP International Investments, Prudential Insurance

11:15am

Panel 2:
The Next Wave of E-Commerce: Connecting Your Customer Channels
Panel moderator: Kevin Fogarty, Business & Technology Editor, Computerworld

The customer economy has arrived with a vengeance, trailing massive numbers of Customer Relationship Management (CRM) systems in its wake. But integrating disparate CRM applications and re-architecting workflow to get that mythical 360-degree view of the customer remains a major hurdle for IT. Online and offline, companies are investing in ways to personalize customer-care technologies such as voice over IP and real-time chat. But are you wasting time fretting about customer relationships when you should be managing customer value? Are you tying all of your customer channels together — in realtime — to leverage existing investments in front-office and legacy applications? This panel will bring together diverse industry views on a topic that ultimately affects every company's bottom line.

12:15pm
Lunch

1:30pm

Afternoon Keynote: Surviving the Revolution and Thriving in the Customer Economy
Patricia Seybold, CEO, Patricia Seybold Group and Author of "Customers.com" and "The Customer Revolution"

For more information or to register [illegible]

Conference Agenda

2:15pm

Panel 3:
Wireless Warriors and the Challenge of M-Commerce
Panel Moderator: Priscilla Tate, CEO/President, Technology Manager's Forum

Few technologies hold as much promise — or pose as many perils — as wireless networks and mobile computing. From privacy rules and regulations to the complex relationships between content providers, aggregators and service providers, IT Leaders face an array of business and technology challenges in building a reliable wireless infrastructure. What are the best practices in deploying mobile commerce applications that resolve security concerns and location-service controversies? Which applications make the most sense for wireless LANs? How do you choose an architecture that works well for your user base? How solid is the Wireless Application Protocol (WAP) standard for unifying handheld devices and wireless networks? Our panelists will examine these core questions through the lens of their own experience, coming up with some practical recommendations for the next wave of wireless warriors.

3:00pm

Break

3:10pm

Closing Keynote:
The Ability to Risk Innovations
Chet Huber, President, OnStar

3:55pm

Closing Remarks

4:00pm - 5:30pm

Sponsor Breakout Sessions

5:30pm - 8:30pm

Cocktail/Networking Reception/ Expo & Buffet Dinner

Tuesday, May 22

8:15am

Opening Remarks
Alan Guibord & Maryfran Johnson

8:30am

Opening Keynote:
IT Leadership in a Changing Economy
Doug Busch, CIO, Intel Corp.

9:15am

Panel 4:
The Heavy Hand of Uncle Sam in Online Security and Privacy Protection
Panel Moderator: Alan Paller, Research Director, SANS Institute

Wherever technology touches its citizens these days, the U.S. government seems to be there with new regulations or proposed legislation. Legitimate concerns about data privacy — particularly with medical records -- are further politicizing these hot-button areas where IT can clearly be held responsible. The high-tech sector remains split about how to approach online privacy guarantees in the U.S., while the European Union has already adopted tough data protection laws that multinational companies must follow. What will these diverging sets of international privacy laws mean for your company? On the flip-side of the privacy coin is security. What role should the government play in helping companies protect their systems from threats? What concerns do you have about government involvement? Our expert panel will talk about strategies for keeping a step ahead of Uncle Sam in this uncertain, potentially explosive, regulatory environment.

10:15am

Break

10:30am

Privacy - It's Not Just a Compliance Issue
Eddie Schwartz, VP of Strategy, Guardent, Inc. (former Chief Security Officer, Nationwide)

11:15am

Town Hall Meeting:
Recruiting & Retaining Top Talent
Maryfran Johnson

12:00pm

Expo & Buffet Lunch

1:30pm

Afternoon Keynote:
The Best of Both Worlds: The Synergy Between Operations and IT
Laura Olle and Marge Connelly, Co-CIOs, Capital One Financial Corp.

2:15pm

Panel 5:
The New ROI: Tracking Technology Payback in a Tough Economy
Panel Moderator: Julia King, Executive Editor, ComputerworldROI

The IT spending spree of the past few years is over. The Y2K glitches are fixed. The massive Enterprise Resource Planning (ERP) systems are installed. The build-out of e-business is ongoing, but the pace has slowed with the downturn of dot-com fortunes. But the intersection of IT and business is still a very busy place. Now is the time to recession-proof your IT organization, generate some new ideas and find new revenue streams. How is your company using the Internet to streamline processes within the organization and deal more effectively with your supply chain? Are you creating online relationships with partners and competitors alike? Where can you use IT to create new products and services? Getting focused on the real business opportunities and the ROI behind technology expenditures is the mission of this panel.

3:00pm

Break

3:10pm

Closing Keynote:
Essential Ingredients for B2B Marketplace Liquidity
Harvey Seegers, President/CEO, GE Global eXchange Services

3:55pm

Closing Remarks
Alan Guibord & Maryfran Johnson

4:00 - 5:30pm

Sponsored Breakout Sessions

7:00pm

Cocktail Reception, Entertainment and Gala Awards Dinner

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Marcia A. Balestrino, CIO, Girl Scouts of the U.S.A.

Marcia A. Balestrino

Helping girls grow strong

BY GARY H. ANTHES

"I love the gee-whiz technology," says Marcia A. Balestrino, CIO at the Girl Scouts of the U.S.A. "But the reality is we have a mission to accomplish: to help girls grow strong."

Balestrino, 51, says the way to do that is less through technology innovation than through process innovation. "When I joined the Girl Scouts in August 1998, there was a great deal of mistrust and animosity between the Information and Technology Group and its customers," she explains. "I immediately began regular, open and honest communication with our customers."

The IT group at the Girl Scouts' national headquarters in New York had developed a new membership system and then presented it to the 317 local councils as a fait accompli. "There were problems with it, and the national organization didn't provide a lot of support," Balestrino says.

Communicating with users was key to turning that around. "A lot of it was listening," she says. "Listening, committing to do something about it and then delivering. And not overcommitting." Balestrino surveyed Girl Scout leaders across the U.S. and made a list of their needs and priorities. "We have a ways to go, but we are quite a way through the list," she says.

Now users are involved in projects from the very beginning. "We almost force them to participate," Balestrino says. The "us-vs.-them" mentality is fading at the Girl Scouts, she says.

Marci Brown, executive director of the Tar Heel Triad, a 22,000-member Girl Scout council in North Carolina, praises Balestrino's technological outreach, which has included projects such as the development of a Web site for training adult volunteers. "One of the most exciting things to come out of her group is not only the actual software applications, but the whole climate of enhancing technology," Brown says.

For Balestrino, innovation in the coming year will include helping launch a national initiative, to be announced in May, to get girls more involved in IT. The objective is to get more women into IT careers. She has already met with women business leaders in Silicon Valley, and she says her role will be to provide ideas and support to senior Girl Scout leaders. "It's something I've been campaigning for," says Balestrino.

Frank Colletti

Keeping the team strong

BY DAN VERTON

Frank Colletti knows what it's like to take a bullet. After all, that's what an IT leader and innovator must do sometimes for the greater good of the team and the customers.

That bullet came last November for the director of e-business solutions at Zurich U.S., a $6 billion property/casualty insurance firm in Schaumburg, Ill. A problem with new data warehousing tools that was overlooked by testers resulted in errors in 10% of the company's reports.

"Basically, I let the support and [database teams] get it off their chests that this should have been caught in testing — without having the testing team there," says Colletti, 40. "The testing team had worked numerous hours over the past week, and I didn't want them to get demoralized by having to answer to the other [teams]."

Colletti knew what he had to do: take the bullet. Leaders protect their people and hold the team together in the face of problems or mistakes. And mistakes are inevitable when you're an innovator.

"Without commitment to taking some risk, it would be difficult to be innovative," says Colletti. "It's critical now more than ever that if we ask people to take risk and move quickly, that we don't punish them when things go wrong because of it. So keeping my staff motivated hasn't been difficult, either."

Innovation requires taking risks but also listening to your customers, says Colletti. A case in point: When senior managers decided that developing customized Web sites for some of the company's largest customers wouldn't be cost-effective, Colletti took them to meet with the customers. The result was immediate.

"They saw the reactions of our customers to this concept and are now among my biggest supporters of this effort," says Colletti. The system turned out to be the first of its kind in the U.S. insurance industry.

Colletti's team-building and customer-support skills haven't gone unnoticed.

"Frank's IT background, coupled with good interpersonal skills and business sense, enables him to look at innovative solutions that are customer-driven," says Zurich CEO John Kelm. "He has a keen sense of what customers find valuable and uses this as the basis for the creative solutions we generate for these customers."

Frank Colletti, director of e-business solutions, Zurich U.S.

PHOTO BY MARC BERLOW

"WITHOUT COMMITMENT TO TAKING SOME RISK, IT WOULD BE DIFFICULT TO BE INNOVATIVE."

– FRANK COLLETTI, DIRECTOR OF E-BUSINESS SOLUTIONS, ZURICH U.S.

Bob Prochnow

Calculating risk

BY JULIA KING

Switching e-commerce systems in the middle of a young business-to-business marketplace's all-out drive to quickly gain credibility and build a large base of loyal customers isn't exactly a play-it-safe choice.

But it's exactly the kind of gutsy yet thought-out move that typified CIO and Chief Technology Officer Bob Prochnow's leadership style at SiteStuff.com Inc. in Austin, Texas. (Prochnow has since left SiteStuff.)

"What he did was take a huge risk," says SiteStuff CEO Michael Stewart of the 46-year-old Prochnow, an engineer by training and an enthusiastic science fiction fan off the job.

"He knew that our first system would not serve us long term because it was more of a business-to-consumer system. But he used it anyway to get up and going fast," Stewart says.

It worked. SiteStuff.com, which serves property managers and others who buy and sell products and supplies for commercial buildings, was up and running within three months of Prochnow joining the company in October 1999.

Yet Prochnow never broke stride. Instead, he immediately recruited a hybrid team of business users and technical staff to begin researching new technologies. He also drew up a plan for implementing and testing a more robust business-to-business e-commerce system and then moving SiteStuff's growing base of buyers and sellers to the new system, which was ultimately selected and widely supported by workers from across the company who had been involved in the entire process from the beginning.

To choose the best system and to gain support, "it was important to involve the business owners at every phase, from gathering requirements to investigating different systems and testing," says Prochnow. "That way, when we made the decision, they had seen their other options."

Relying on business users and technical workers to investigate options and play a leading role in technology choices has also gone a long way toward building worker loyalty and morale at the 18-month-old exchange.

"What makes Bob Prochnow a good manager is that you always feel like you are working with him rather than for him," says Mark Dean, vice president of Web development at SiteStuff. "He's a tremendous motivator and has created a work environment that truly empowers employees to perform at their highest levels. As a member of his team, you really know that you are valued."

But there's also a flip side to Prochnow's penchant for taking risks and empowering others.

"He's also extremely careful," Stewart says. "Like most engineers, he does not like to stand under an arch if he thinks it might fail. He studies things carefully so he knows they will work."

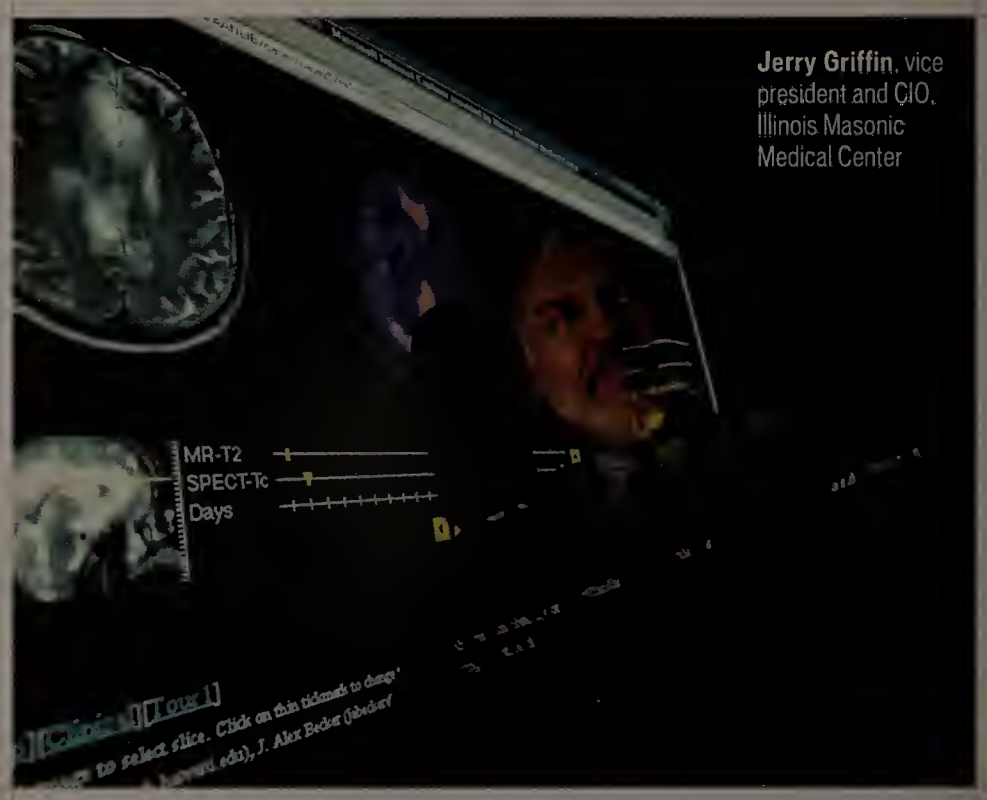
Bob Prochnow, former CIO and chief technology officer, SiteStuff.com Inc.

PHOTO BY WILL VAN OVERBEEK

Jerry Griffin

Getting there first

BY MATHEW SCHWARTZ



Jerry Griffin, vice president and CIO, Illinois Masonic Medical Center

PHOTO BY MARC BERLOW

Until three years ago, Illinois Masonic Medical Center, a teaching hospital in Chicago that cares for more than 400,000 patients annually, had a history of underinvesting in new computer systems. This practice was stifling the hospital's IT growth, and the hospital's directors knew it.

In response, they hired Jerry Griffin as vice president and CIO, and the innovation began.

"I'm most focused on getting there first, to bring whatever the next level of integration or functionality is that you need for your business, while always trying to give [the] organization a competitive advantage," says Griffin, who worked at Children's Hospital at Washington University in St. Louis for 17 years before moving to Chicago.

So don't expect to find his staff writing business applications like patient-accounting or laboratory systems; they buy those. "We like to operate at the connection between things," says Griffin, 55. That means quick projects that rapidly show results.

A CIO can get caught in two traps of his own making, according to Len Pacek, the hospital's director of systems integration and development: promising more than can be delivered and not setting expectations. "I think Jerry has exceeded expectations by doing a lot with a little," he says.

"Our focus the last few years has been integration of systems," says Griffin. "That's where a lot of difference can be made in how things work." This approach is bolstered by HL7, a health care-specific application interface standard that makes it easier for hospital systems such as lab, X-ray and patient admissions to share data, which in turn speeds clinical care and reduces errors.

An evolutionary approach itself begets innovations. For instance, the IT department wrote a small Web-based application last year that lets managers set employee access to systems. After IT created a database to record access levels, it created organizational tables for human resources and used the database to store encrypted passwords and create a centralized access system. Now, users can access the system with just one password.

To build team consensus, Griffin holds weekly meetings with directors, IT staff and the clinically oriented group and makes sure the groups share information about upcoming projects.

But successes aside, when an off-the-shelf product betters a homegrown application at a good price, the hospital buys it, says Griffin. Yes, even innovation requires tough love. ◗

Susan McKay, vice president of customer and information systems, Aircast Inc.

Susan McKay

Learning the business

BY MARC L. SONGINI

Susan McKay believes that what makes her IT department successful is its knowledge of what makes the rest of the company tick.

McKay, 50, vice president of customer and information systems at Aircast Inc., a Summit, N.J.-based maker of orthopedic devices, got her start on the business side of the house as an assistant buyer at San Francisco-based Macy's. She has also worked in customer service, consulting and administration and accounting, and she lends that experience to her IT staffers. She encourages them to work side-by-side with people from other parts of the company.

Over the past four years, this business approach has helped McKay oversee the successful evolution of Aircast from a direct sales company into an e-business.

"Running IT is like running any other type of business. It's all about motivating people," says McKay, who says she was originally petrified by the job. Coming from a business background, McKay says she had an "MIS mountain" to climb when she first got the job in June 1996. But according to her colleagues, she has shown herself to be quite adept with technology.

"She's a real IT leader," says Aircast CEO Jim Johnson. "She's a leader in recognizing the importance of IT in the bigger business picture."

McKay says her IT staffers are fascinated with learning the other parts of the business, so her job is to break down barriers for them. "In order for [IT] to really become part of the business, [they] had to learn the business. For themselves as well as for me," she says.

In the past few years, McKay has overseen several technology innovations. Among them was the implementation of electronic data interchange for business-to-business transactions throughout the company as well as the completion of a 15-month data warehousing project that lets salespeople get real-time sales information on their laptops. McKay says she knew the latter project was a success when she saw the sales managers' faces light up during the demonstration.

McKay says the loyalty of her staff helps her succeed. Since she took the helm, there has been no employee turnover. She says she keeps her people by ensuring that they have access to training resources and get to play with the latest technologies. McKay says that whenever possible, IT projects should be handled in-house, rather than outsourced, to give the staff new challenges.

Her next project is to oversee Aircast's plan to tie its e-business technologies together and connect them externally to partners and customers via XML formatting. ◗

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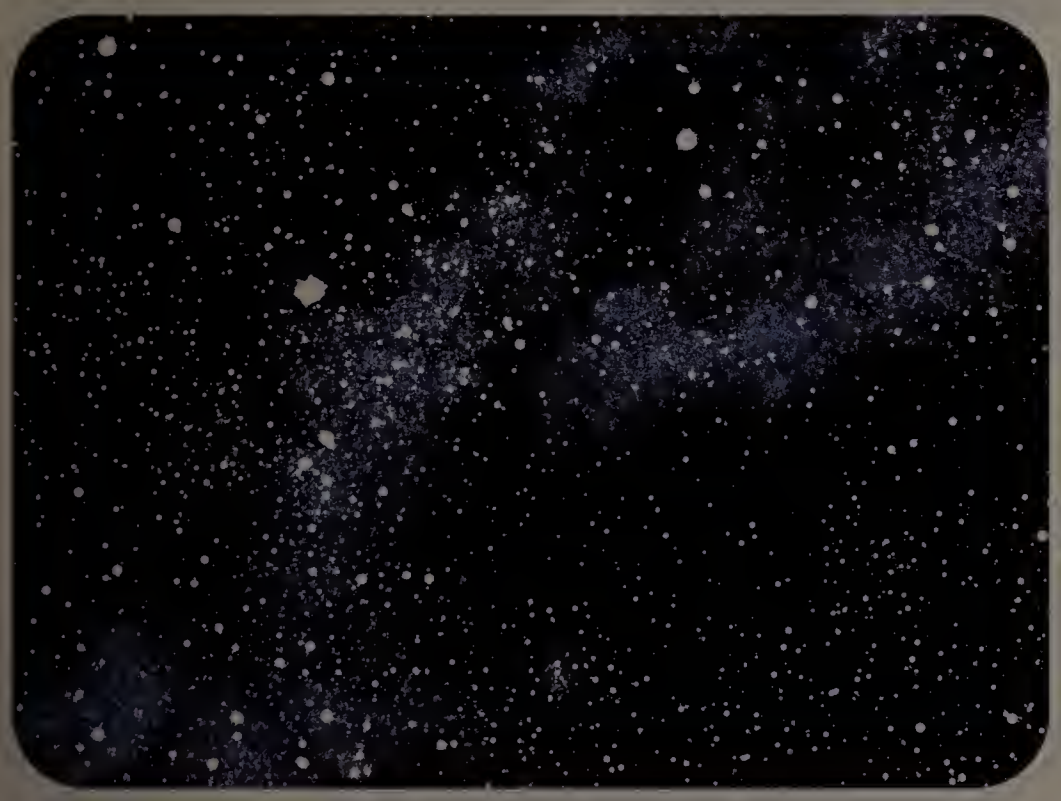

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Kim D. Ross

Applying the acid test

BY SAMI LAIS

Meet Kim D. Ross, CIO of television ratings giant Nielsen Media Research Inc. in Dunedin, Fla. Smart. Charming. Articulate. Innovative, of course.

Don't forget supportive and honorable, adds Nielsen's vice president of process quality, Pat Hoover.

"When you bring an idea to [Ross], he asks the right questions to help you think it through and see what the next step is," Hoover says. "And he always, always, always gives credit. He makes people feel like their contribution is recognized and is important."

Ross, 46, says he's only doing what's right for the business. "Most innovative ideas come from the grass-roots level," he says. For example, a current project will let Nielsen's customers select from 170 services to build a personalized package of products accessible via a Web portal.

Two developers hatched the idea and brought it to Ross. "I applied my acid test and said, 'Absolutely, I'll help you sell this right to the top,' " Ross says.

To pass his acid test, Ross says, an idea must be based on technology mature enough to have some track record, and it must support the business not only today but also into the future.

Kim D. Ross, CIO, Nielsen Media Research Inc.

PHOTO BY JEFFREY CAMP

The personalization and Web portal project is also challenging the way the business is structured, according to Ross. Changes in how products will be developed and how security is enforced will extend across divisions, prompting questions such as, "Who's responsible for the new products we build, and who decides how these things are packaged?" he says.

Ross says he suspected the project might raise some jurisdictional questions, "but the risk of not doing it was greater than the risk of doing it." His solution was a cross-divisional team that owns the project and whose members split their time between their regular duties and the new team.

That team may not be the final answer, Ross says, but "it lets us study the impact [of the project] without committing to organizational change, and it breaks through that chicken/egg issue."

Ross' boss, Susan Buchanan, former CIO and now general manager of operations at Nielsen, says she appreciates that fine balance. "I can count on him to deliver solutions that are practical for our business," she says, "while I also have absolute confidence he's keeping pace with technology and staying abreast of what's going on in the industry."

Ross deserves to be named a Premier 100 IT leader, Buchanan says. If only it could somehow be done secretly, so "some other company doesn't read about him and snatch him away," she adds. Or so that Nielsen's parent company, Netherlands-based multinational firm VNU NV, doesn't kick him upstairs.

"I think they want to leverage his unique expertise," Buchanan says. "I can see him playing a broader role at the corporate level."

That's fine with Ross. Unless he gets a crack at his dream job: philanthropist. ◗

Brian Kilcourse

Keeping the wheels turning

BY KIM S. NASH

In 1997, ahead of most large networked companies, Longs Drug Stores Corp. ripped out its X.25 networks and went all-Internet-Protocol. Today, the pharmacy chain is big into thin clients, Java applications and — soon — wireless technology.

IT at Longs has always been decentralized — a tough position to defend in the late 1980s and early 1990s when predominant IT thinking called for centralization. But it had to be that way. Longs' distributed, "the network is the computer" IT philosophy reflects the company's general approach to business. Regional managers, and those at Longs' 425 stores, have wide decision-making power. A know-it-all central IT base would be rejected, says Brian Kilcourse, senior vice president and CIO at the Walnut Creek, Calif.-based company.

So even though $4 billion Longs isn't the biggest firm in the U.S. corporate food chain, "there's a lot more interesting complexity in the technology arena [here] than you'd normally find in a company our size," Kilcourse says.

That reality routinely forces Kilcourse, 49, to take chances that other colleagues wouldn't. For example, in the early 1990s, Longs was the first retail user of Red Brick Systems Inc.'s data warehouse software. This was just as the data warehouse concept was beginning to take off. But Longs simply needed the ability to comb sales data for trends without having to build such a system in-house, Kilcourse explains. (Red Brick has since been bought by Menlo Park, Calif.-based Informix Corp.)

These days, untraditional rivals are creeping up — supermarkets, mass retailers such as Wal-Mart Stores Inc. in Bentonville, Ark., and, of course, Internet players such as Drugstore.com Inc. in Bellevue, Wash. They all want a piece of the pharmacy business.

To spark ideas for IT at Longs, Kilcourse does reconnaissance of competitors to see what they're doing with technology and, whenever possible, quizzes their employees.

And his staff joins right in. "We have a scorecard of how many times you've been thrown out of competitors' stores," he says.

Kilcourse recently visited a store of one rival chain (which he declined to name) when a clerk was restocking shelves.

"This fellow had a technology device in his hand, and I asked him if I could see it," he remembers. "We were talking and the store manager came up to me. I identified myself, which I always do. I'm honest about it." The wary manager then politely but firmly asked Kilcourse to leave.

But he couldn't stop the wheels from turning: Last summer, Longs started a complex project to meld key data on inventory, product sales, customer prescriptions and activity at the company's Web site into databases accessible to both employees and customers — via wireless handheld devices.

Store clerks, for example, will be able to use small wireless appliances to do such chores as updating inventory applications running on mainframes at up to five different Longs data centers. The system is due out this year.

On his way to the CIO suite, Kilcourse has worked many IT positions at Longs. He has been a financial systems analyst, manager of pharmacy systems and director of systems and programming.

Kilcourse says he wouldn't trade his 18 years at Longs for any other job — but he adds that he doubts that anyone would want to trade with him, either. It's a lot of work. "I always say, 'Anyone responsible for my demise gets my job,' " he jokes. "So I'm pretty safe." ◗

Brian Kilcourse, senior vice president and CIO, Longs Drug Stores Corp.

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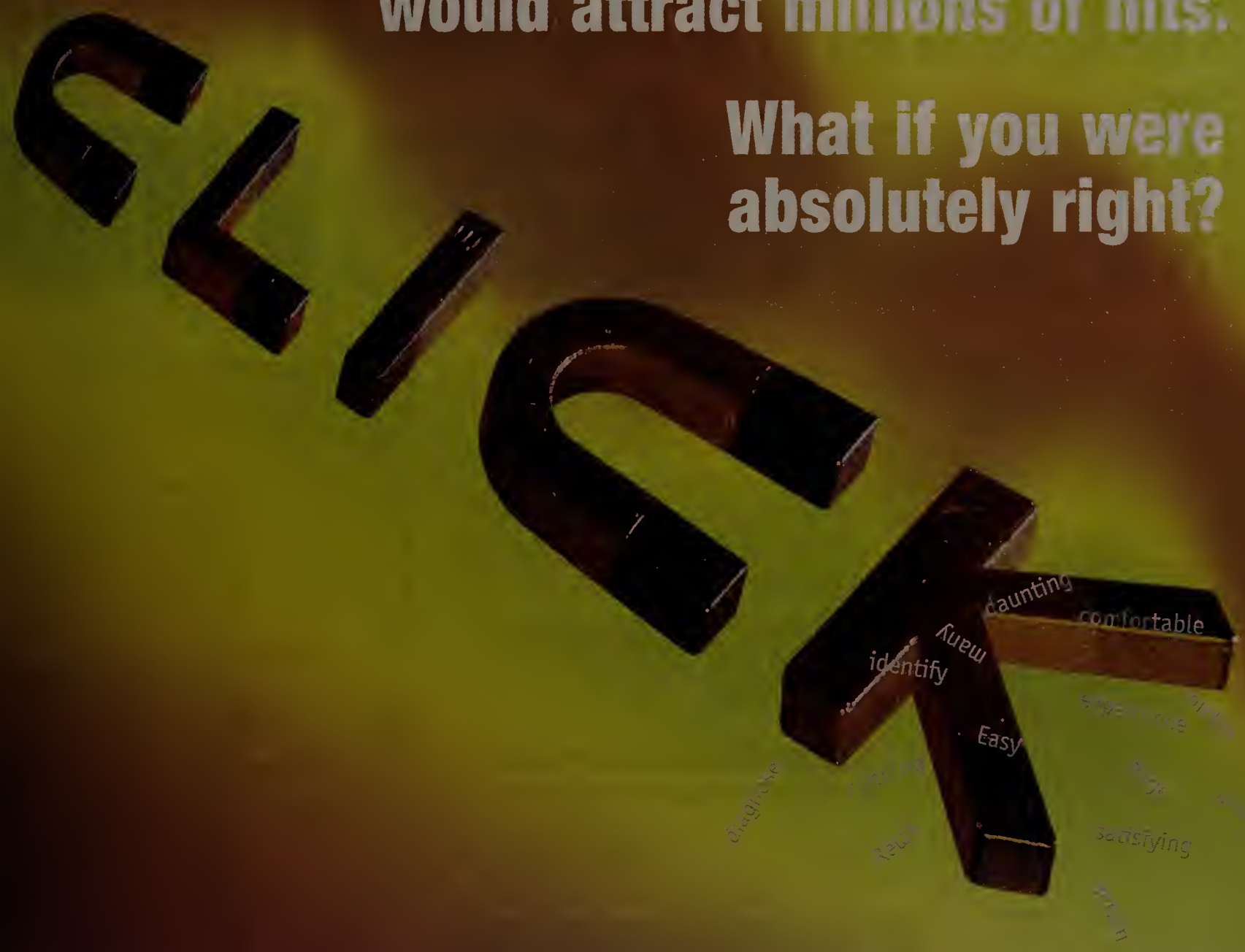

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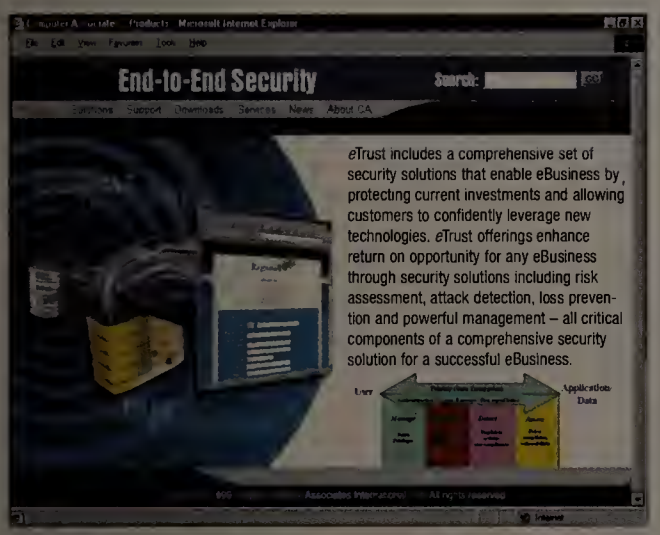

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PHOTO BY TED RICE

Mary Olsen Dielman, vice president of technology, Donatos Pizza

Mary Olsen Dielman

Keeping pace with growth

BY ALLISON WRIGHT

It was an ambitious plan by any standard. Expand Donatos Pizza's 151-store chain to 1,200 stores by 2004. To do it, Mary Olsen Dielman, vice president of technology at the Columbus, Ohio-based pizza restaurant and delivery company, knew she needed to leverage technology to its fullest. She chose VSAT, a satellite-based transmission and reception service that would allow the corporate office to connect to each restaurant via high-speed phone lines.

With VSAT, each restaurant's sales, inventory level and other pertinent data can be calculated in real time, resulting in increased productivity. Online sales will also be streamlined, sending the customer's pizza order to Donatos' point-of-sale system and to the local pizza shop simultaneously.

Before the VSAT system, an online order made its way first to a call center, where an employee would locate and contact the closest store to the customer. A second employee at the local store would then enter the customer's order. The new process reduces the number of workers involved and eliminates the manual entry of orders, thus improving efficiency and accuracy.

Although responsible for the strategic vision of the VSAT project, Dielman, 38, didn't have a blank check to implement it. It took networking and hours of research to justify the cost of the project, which is due to be completed this month. "You have to be creative when you're not yet a billion-dollar company that can purchase whatever technology it wants," she says. "It makes the work fun."

Making the work fun for her team is important, too. Those who work with Dielman say she does that and manages to keep the work challenging. With one year on the job, Dielman hasn't lost a single member of her team. "That should tell you something," says Michael Connor, manager of application development at Donatos.

Dielman says her goals are to "leverage leading-edge technology, not bleeding-edge technology, to maintain our competitive edge, to improve processes and to provide meaningful information to management to better manage the business."

W.K. Gus Otto

Dreaming the possibilities

BY ELLEN FANNING

W.K. Gus Otto has been to the edge and back. When a 1990 car accident left him with a broken back, a crushed chest and a severed artery, he was fighting for his life. It would be technology, and an unbreakable spirit, that would bring him back.

The subsequent seven-hour surgery to reconstruct Otto's chest united a team that included a specialist patched in through a video-to-video connection in combination with robotic surgery equipment driven with OS/2.

That surgery, and long hours of physical therapy, put him on the road to recovery. Two years after the accident, Otto returned to his job at Peoria, Ill.-based Caterpillar Inc. But the significance of his ordeal and the role technology played in his recovery was not lost on him. "How much more powerful can technology be than to save a life?" he says.

"Videoconferencing is, without question, very special to me," says Otto, 52, now senior systems analyst at the $26 billion manufacturer of construction and mining equipment. "It was the reason I taught myself all about PCs, networking, development of codex. [But] it was one piece of the overall makeup of multimedia. [In] my surgery, without the voice, they would not have been able to communicate quickly; without the data, they would not have been able to program the robot to remove the bone chips.

"My pursuit to reduce the demand of bandwidth needed to deliver real-time capability is not restricted to just video. I am and have been involved with audio and IP telephony review in order to provide the world with a total multimedia capability — voice, video, data," he says.

Otto worked his way up the ranks at Caterpillar, and now, 23 years later, he can't think of a better place to work. He's committed to helping the younger talent grow.

Otto "took me under his wing," says Bob Katter, a programmer/analyst in Otto's group. "Gus is really good to know. He knows everyone in the company and is able to get things done quickly."

Otto says he benefits, too, from the "young geniuses" who he says give him a shot of Adrenaline to stay ahead. "I'm not about to let a young whippersnapper know more than me. It's fuel for my breakfast," says Otto.

"I'M NOT ABOUT TO LET A YOUNG WHIPPERSNAPPER KNOW MORE THAN ME. IT'S FUEL FOR MY BREAKFAST."

– W.K. GUS OTTO, SENIOR SYSTEMS ANALYST, CATERPILLAR INC.

Lily Shue

Harnessing the power of ideas

BY MARI KEEFE

The Internet is changing business, and IT is in the driver's seat. To innovate in this fast-paced world, IT leaders need great ideas. And Lily Shue knows where to get them.

"It's up to us to talk to our peers, to network, then put ideas together and determine what is best for [our company's] needs," says Shue, systems manager at Sony Electronics Inc. in Park Ridge, N.J. The company makes audio, video, communications and IT products for the consumer and professional markets and is a U.S. subsidiary of Tokyo-based Sony Corp. "There is no one place to get ideas," she says.

Shue says businesses now must integrate five key areas: process, finance, training, customer service and security. According to Shue, IT can enable this new way of doing business, but leaders must leverage technology to help their business succeed.

So where do you start? Shue says IT management should develop think tanks that help their people understand business and new technologies. Don Korpos, technical assistant at Sony, says Shue encourages her staff to read technical and business publications, to work as a team and even to go back to school for business and technology training. Sharing is also a big part of Shue's philosophy toward innovation: "We share the vision with management as well as with peers and think, 'How can we do things better to meet this new vision?' "

Shue says the drive to innovate gets her staffers thinking about business goals. She shares her ideas and asks for theirs; they discuss, then implement. In the end, "it's their ideas," says Shue, "and my staff is very proud of that."

Productivity and solutions flow from the think-tank model. Korpos says the give and take, knowledge-sharing and delegation are what he likes best about Shue's management style.

Shue says her business background has served her well when exploring new ideas and technologies. "Every bit of my training, and also my experience, helps to facilitate my innovative thinking," she says. Shue stays in touch with "every aspect of the business," and makes a point of understanding the business, technology and financial issues. "I think all IT professionals should have exposure to all areas of the business," she says. "I did, and I know I was very lucky."

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A VOICE AT THE TABLE

Today's IT leaders are business leaders, too, and can articulate their vision in the boardroom

BY ROBERT L. SCHEIER

Jeff Orton had been an IT firefighter, installing and troubleshooting corporate systems for 16 years, when senior management at Wilsons The Leather Experts Inc. invited him into a different world.

As director of strategic analysis for nine months in 1997, Orton turned his attention to how the Brooklyn Park, Minn.-based leather apparel retailer could increase sales of accessories, open more and different types of stores and strengthen the Wilsons brand to sell products at higher margins.

Sound like your average IT job? Maybe not average, but Orton's role at Wilsons is becoming increasingly typical of those held by today's top IT leaders. These IT professionals are not only finding a seat in the boardroom, but they're also driving the corporate conversation with passion and discipline. When explaining a network upgrade, they skip the acronyms and talk about cutting lines at cash registers. They tell business managers that a flashy new sales reporting system must take a back seat to the back-office updates needed to keep gas pumping at the company's convenience stores. They deliver projects on time and on budget and use that credibility to fight for their fair share of corporate money and staff.

From Firefighter to Strategist

"Three years ago, a lot of my days ... would have been dictated by the fires of the moment," keeping critical IT systems running during peak sales periods, says Orton. "At some point, I discovered I didn't want to do that." By contrast, Orton says, he recently spent a lot of time finalizing the business strategy with the managers of the company's mall-based and outlet stores, suggesting ways IT can help them achieve their goals or warning them about where technology might cost more or take longer to implement than they expect.

Dave Rogers, Wilsons president and chief operating officer, says Orton landed that particular job because in his previous role as director of merchandising systems "[he] was willing to look at the big picture. He was able to assess our processes. He was able to give us some insights into our people needs and requirements," rather than throw a technical fix at a nontechnical problem. It's a role Orton continues to fill as CIO and vice president of logistics.

An early example of Orton's big-picture view was the upgrade of the company's point-of-sale (POS) systems, which was completed last year as part of an overall networking of the company's 550 stores. The project was spurred by complaints that the systems were hard to adapt to Wilsons' reporting requirements as a newly public company and too difficult to use for a high-turnover retail workforce. Rather than merely fix what was broken, Orton asked Wilsons' vice president in charge of the stores which POS features could actually help the business.

With the network, employees now use the POS systems to access the Lawson Software human resources system, which is managed from headquarters, and can dispatch administrative work without leaving their registers. The networked POS systems allow a cashier in one store to sell a customer a jacket in stock at another store and alert that store of the sale. It has also reduced lost sales during crush times by slicing credit card authorizations from 45 seconds to five. "We knew the

Continued on P32

PHOTO BY MARK LUINENBURG

Jeff Orton, CIO and vice president of logistics, Wilsons The Leather Experts, Brooklyn Park, Minn.

Challenge: Diversify product mix and store formats to increase revenue and margins and reduce seasonal sale fluctuations.

Response: Used the replacement of POS systems as the springboard for a corporate network that has sped credit card authorization and given store staff more time and information to help customers.

Results: Since 1997, sales have grown 14% per year to $544 million in 1999 (estimated to have reached $630 million last year), and earnings per share are up 33% per year to $1.94 in 1999 (estimated to have reached $2.38 last year).

Continued from P31

technology existed," says Orton, to make "what was an initially defensive move positive" for Wilsons.

"Even with networking, which is a bit esoteric, Jeff has an uncanny ability to . . . reduce it to terms the business head could understand," says Rogers. "They typically look at a CIO as someone who's out in the clouds and who's putting in technology just because it happens to be in vogue." When business managers know how IT investments help them, says Orton, if a problem crops up, "it doesn't become adversarial."

Orton also replaced his entire staff over the past two years with "the right people who could explain 'no' to the businesspeople" and commit only to what they knew they could deliver. "When it really works," he says, "you don't see all that much of a difference between a systems project and a business project, because [they] become one and the same."

No More Moats Around IT

A year ago, the IT unit at The Rowe Cos. in McLean, Va., was a classic "24/7 data center, with the moat around it and the drawbridge," says Vice President and CIO Suzanne P. Krupa. While technically competent, "the IT group sat back and reacted" to requests from other units rather than proactively looking for ways to help. And when a business unit refused to adopt a new system, the IT group "took that very personally rather than going out and trying to understand [why]," she says.

Today, "folks in my team know we don't say, '[Users] are stupid, or they just don't get it or they don't want to do it,' " says Krupa. The burden is on IT to explain as often as needed the business reasons behind its decisions.

Krupa justified a mainframe tape backup system to the chief financial officer by explaining it would free up two hours of processing time each night for running reports on which the CFO depends. Every memo leaving IT must now include four or five bullet points explaining in simple terms "What this means to you," with "you" meaning the business user, not the IT person.

Krupa created business unit advisers within IT whose sole job is to understand the needs of the businesses to which they are assigned and to be points of contact to IT. She then assigned herself to early efforts, such as an advanced planning and scheduling application for Rowe's manufacturing operations. By involving manufacturing from the start and letting it manage the project, "it helped the business unit start to think . . . 'Gee, we own this [application].' This is not an IT initiative.' "

Krupa says she uses strict project tracking to help her fight for her fair share of staff time and other resources. Six weeks before the company was due to go live with Oracle Corp.'s sales compensation application, for example, Krupa warned that the project was running late — and could prove that the cause of the delay was that she hadn't gotten promised help from sales and marketing. But she also warns her own staff against "unrealistic optimism" in promising when IT will deliver, reminding them that 20% to 30% of their average day is spent on unexpected problems. Having a voice at the table isn't worth much if you can't back up what you say.

Acting Like an Owner

Ask Pat Enright to name his dream job and the answer is simple: business owner.

What type of business, he doesn't yet know, but he says he craves the gut excitement of building something he can call his own. Enright's entrepreneurial flair "is definitely a good fit for our culture," says Jeff Jones, executive vice president and CFO at Clark Retail Enterprises Inc. in Oak Brook, Ill. "[Enright] really has a passion to make sure we're doing things on a cost-effective basis and things that will help the business improve."

Enright, Clark's director of corporate information systems, has had plenty of outlets for that passion since July 1999, when Apollo Management purchased what had been the retail arm of Clark Refining and Marketing Inc. Unlike the previous owners who were more focused on refining than retailing, Apollo was willing to invest in and grow the retail business. That meant replacing the stores' hodgepodge of outdated systems. Since the stores no longer had a parent refining company, they needed new systems for buying gas and managing inventories.

Enright stayed focused on the most critical projects: managing fuel and creating an infrastructure for future growth. This included an enterprise resource planning system from Lawson Software as well as fuel management software. Enright had to say no, or "not now," to other projects, such as upgrading POS systems and a new, faster sales reporting application.

"We just said, 'That project's on hold; that's not the highest priority right now,' " Enright says. "We have to make sure the company is up and operating." Those sometimes difficult discussions were eased because of the relationships he had formed over the previous five years working with non-IT departments within Clark. "I'd learned the business," he says.

Scheier is a freelance writer in Boylston, Mass.

PHOTO BY KATHERINE LAMBERT

Suzanne P. Krupa, vice president and CIO, The Rowe Cos., McLean, Va.

Challenge: Improve coordination between business units and the IT organization; implement an advanced planning and scheduling system to boost manufacturing efficiency.

Response: Created business unit advisers to serve as points of contact between business units and IT. Placed the burden on IT to communicate business benefits to management.

Results: Saving $140,000 per year by putting more voice traffic over existing data lines.

PHOTO BY MARC BERLOW

Pat Enright, director of corporate information systems, Clark Retail Enterprises, Oak Brook, Ill.

Challenge: Implement systems to allow Clark to spin out of an integrated petroleum refining and marketing company to pursue aggressive growth as a stand-alone retail (convenience store) chain.

Response: Worked with senior business managers to identify and implement changes in key systems, such as those used to support gasoline sales.

Results: Since July 1999, Clark has grown from 700 to 1,000 stores and is expected to reach more than 1,500 by year's end. The privately held company says it had $1.8 billion in sales and was profitable in the past fiscal year.

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OUTSOURCED TO THE CORE

IT leaders know their department's core strengths and which tasks are best handled by an outsider

BY MARK HALL

The holiday season was looming large over RadioShack Corp. last year, but IT boss Evelyn Follit says she wasn't too worried about having enough extra capacity for the seasonal demand. She had outsourced the company's Web infrastructure, so it was someone else's problem. Not hers.

Follit, who is senior vice president and CIO at Fort Worth, Texas-based RadioShack, says the electronics retailer has experienced "virtually no glitches" with its Web host, Dallas-based Data Return Corp., even after making a recent transition to Microsoft Windows 2000 Commerce Server.

Responding to temporary or sudden shifts in Internet demands is only one reason IT leaders and experts agree that Web infrastructure is a likely candidate for an externally managed service. Other operations are also ripe for outsourcing, they say, but choosing what stays in your IT department and what goes out requires the utmost consideration.

Edward T. Flynn,
chemical industries CIO, FMC Corp.

PHOTO BY MIKE AHEARN

"Most IT resources are not being used to differentiate the business, so there are lots of options for outsourcing," says Peter Bendor-Samuel, CEO of Outsourcing Center Corp., a Dallas-based consultancy, and author of *Turning Lead Into Gold: The Demystification of Outsourcing* (Executive Excellence Publishing, 2000). IT support for human resources and payroll functions is likely to be outsourced by savvy IT shops, he says. Outsourcing Web servers and network connections is another good choice for most companies, "but for Amazon.com or [America Online], that's not going to be the case," Bendor-Samuel says. "You need to look at what's core."

Consider first those noncore competencies, he says, and push them out the door with an eye toward doing them better, not just cheaper.

That's Robert R. Ridout's approach. As vice president and CIO at Du Pont Co. in Wilmington, Del., Ridout has 1,100 IT professionals and a budget of more than $500 million at his disposal. But even that's not enough to supply all the necessary services to Du Pont's 94,000 workers in 70 countries. So the company uses a variety of managed services, including Web hosting from Proxicom Inc. in Reston, Va.

Evelyn Follit,
CIO, RadioShack Corp.

PHOTO BY REID HORN

According to Ridout, Du Pont's approach is to consider outsourcing when it contributes to value and growth for the company. "That allows Du Pont to get IT to focus in areas where we can create competitive advantage," he says.

Those competitive areas, which are generally off limits to outsourcing at Du Pont, include such things as process control and research and development computing. But even in the latter category, Ridout says the company will consider managed services for infrastructure, such as network monitoring and system backups.

Project management is an area that Follit says she's reluctant to let slip outside her company's complete control.

"Project managers ultimately drive the core IT competency and strategic advantage for the organization," she says.

Once you've made the decision to outsource, keep a close eye on your partners, no matter how much you trust them. Despite Follit's success with Data Return, she continues to monitor the service-level agreements. And any code that gets outsourced is measured for quality.

At Du Pont, Ridout says his group audits everything from source code to security. It even employs New York-based professional services firm PricewaterhouseCoopers as an outside auditor for special security operations.

For Edward T. Flynn, chemical industries CIO at manufacturing giant FMC Corp. in Chicago, outsourcing is altogether commonplace. He says the amount of IT work done outside company walls is considerable.

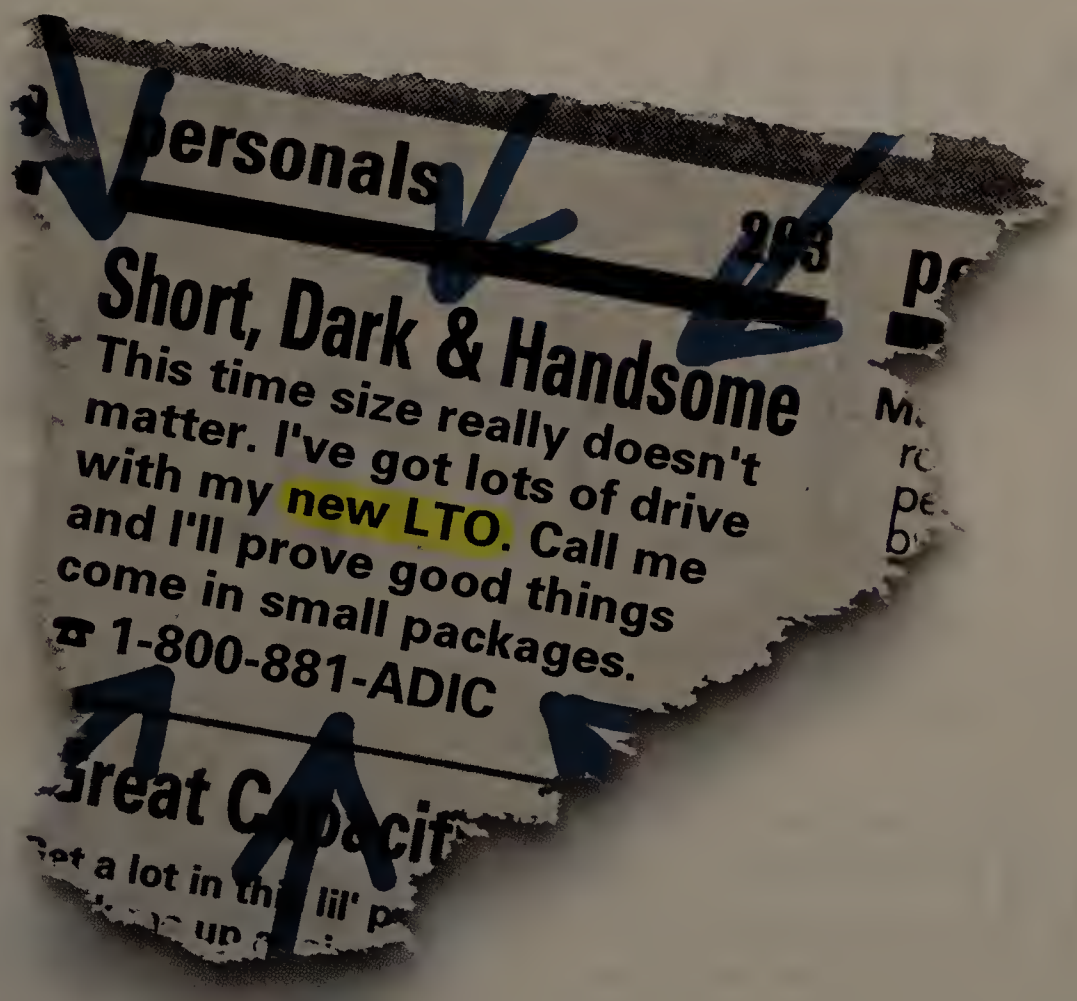
"We outsource our Web hosting to Digex," he says. "We outsource our telecommunications and data networking to EDS. We outsource the running of our SP2 Unix boxes to run SAP, our transaction engine, to IBM. We outsource a transportation application to a third party and link it with our transaction engine using webMethods."

That said, Flynn's staff studies each project carefully for risk and cost benefits before opting to take the work outside. "We evaluate the complexity of the technology, the technological risk of acquiring and running the application ourselves and the cost of both acquiring and cost of ownership to make our decision," he says.

Follit concurs. "Any area where we can provide improved effectiveness at an improved blended cost rate is ripe for outsourcing," she says.

Bendor-Samuel says most organizations can achieve cost reductions of 15% to 20% for most outsourced services.

"But the [return on investment] can even be higher," Bendor-Samuel says. "Outsourcing is one of the best investments you can make in the business. Period." ◗



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WHY WIRELESS NEEDS A HARD LOOK

It can be a prime business driver or simply a money pit. These IT leaders did their homework before making their choices

BY MATT HAMBLEN

More than half of our 100 Premier IT Leaders say a wireless initiative will be a business-critical project at their companies within the next 12 months. What will make these projects successful? Three IT leaders we spoke with agree on this advice: Be realistic about what you hope to achieve with the technology, and do your homework first.

First is Ellen Chaffee, president of two North Dakota universities, who has twice evaluated using wireless and twice rejected it. Second is Clayton E. Lewis, who works for the city of Tulsa, Okla., where wireless applications will help police do their jobs better. And, there's Patrick Wise, at Landstar System Inc., a $1.5 billion transportation firm in Jacksonville, Fla., that matches truck drivers with loads nationally. Landstar recently set up wireless data applications that the company hopes will be a primary business driver.

All three IT leaders worked hard with top-level executives and spent months or years reaching their decisions about wireless. Critical factors were cost, reliability and robustness. But also important was determining if wireless would be useful and easy to learn.

Mayville State and Valley City State universities, both in North Dakota, converted to a "ubiquitous computing" learning environment in 1996 that required IT managers and administrators to consider a wireless network. But wireless was ruled out then and again last year, partly because of bandwidth limitations.

Ellen Chaffee, president, Mayville State and Valley City State universities

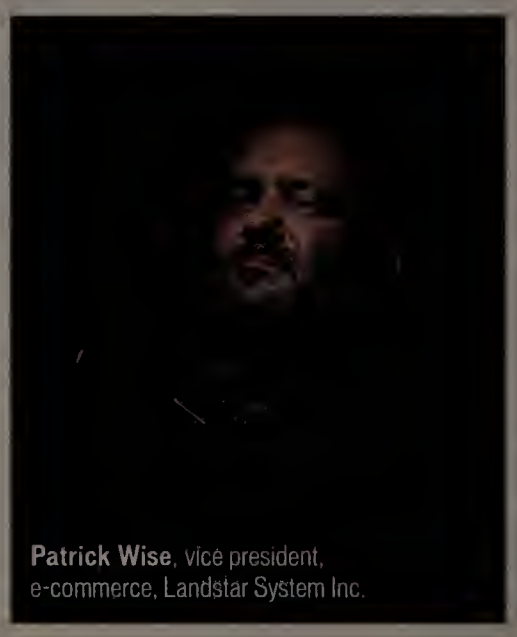
PHOTO BY RUSS HANSON

With wireless, students wouldn't have the quality of service they would need to view or hear primary source materials, such as historical speeches, over the Web, says Chaffee, president of both schools. The universities have a combined enrollment of about 2,000 students.

"We use high-end Ethernet connections because we deliver online instruction that might involve watching a video archive," Chaffee says.

Cost was a factor related to quality of service. "We have nothing against wireless, but to provide it would be 10 times as expensive as wired, and there's no perceived benefit," Chaffee says. Since 1996, the schools have been rewired to provide laptop users with Ethernet and power connections in virtually every desk, classroom, study room and dorm room on campus.

"We have so many wired connections already, and since we're in North Dakota, it's not like a student is going to wander out and sit on the lawn to work," she says. Besides, one wireless LAN card would cost $300 or more, and to upgrade to higher bandwidth, next-generation wireless networks would require all new LAN cards and wireless switches in three years. But new Ethernet switches in the wired network are expected to have five years of life, Chaffee adds.



Patrick Wise, vice president, e-commerce, Landstar System Inc.

PHOTO BY KELLY LAOUKE

The situation is quite different in Tulsa, where a 35-police-car pilot test is under way to link officers via wireless, ruggedized laptops to central records, says Clayton E. Lewis, network services division manager. Police officers can check license plates or conduct criminal background checks wirelessly, replacing a slower and less-efficient system of making the checks via voice radio, which also tied up someone on the other end of the line. The system is expected to roll out to all 250 Tulsa police cars by summer.

Lewis and the police department expect the laptops to enable easier filing of complex reports and allow more policing, like quickly checking for stolen vehicles by running license plate numbers through the system.

Tulsa officials have agonized over how to make the $2 million project cost-efficient and the applications reliable and easy to use. The city rejected setting up an application that would have run more easily over a Cellular Digital Packet Data network and chose the existing private radio, data-based network because it was cheaper, Lewis says.

There were also concerns about creating an application that worked with shrunken wireless bandwidth and finding qualified workers to put all the pieces together. "We will succeed at this, but it's not a trivial project," Lewis says.

At Landstar, wireless data access to an existing Web-based application began in November, after planning started in February last year, says Patrick Wise, vice president of e-commerce. Nearly 9,000 independent drivers working with Landstar can use a Wireless Application Protocol (WAP) phone to find available loads to carry, make bids on them, report their delivery status and check the balance on their Landstar debit cards, which are used to transfer payments for work.

Deciding what features to include in the application was the hardest part of the process, Wise says. The application design involved 25 people, including drivers, who met with the integrator for three days. But now, making a report on a job's status takes only several touches on a keypad.

"What we learned is that usability is a huge issue," Wise says. "You cannot replicate the Web site or Web functionality on a WAP device, and you have to reinvent the application."

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How Premier 100 leaders meet the challenges of the brave new world of global IT

BLEND IT, MIX IT, UNIFY IT

BY EMILY LEINFUSS

PHOTO BY KATHERINE LAMBERT

Lawrence Kinder, CIO, Avis Group Holdings Inc. (now Cendant Corp.), says he develops a core team of leaders who can go into any country and "preach the gospel of understanding and best intentions."

In the world of global IT operations, timing is everything. And so is knowing the ropes of the country you're in.

Take, for example, Cleveland-based TRW Inc., a $17 billion technology, manufacturing and services company with operations in 35 countries. When TRW's plant in Poland experiences a problem with its enterprise resource planning system or its global wide-area network, the first wave of support comes from the local IT team. If that group is unsuccessful in righting the situation, backup is called in from a second team and even a third in the same time zone in either the U.K. or Germany.

Speed is of the essence, and local support means faster access to end users and resources, such as service providers, telephone companies and equipment.

This clustering of IT support by time zones and proximity is just one

of the lessons learned by Mostafa Mehrabani, who has served as vice president and CIO at TRW for three years and for the past two years has developed the company's global IT operations.

"For a while, we were trying to perform day-to-day support of LANs and IT development for our Asian operations from the U.S.," he says. "[We] came to the conclusion that while you can get someone on the phone, it isn't the same as being there and understanding the culture."

So TRW developed centers of excellence, which are groups of subject-matter experts who assist employees throughout the company with their problems and requirements. "Often, we don't have the luxury of certain technical expertise in every part of the world, and we don't have the need for full-time experts in every region. Pooling resources to solve global IT issues is a major advantage," says Mehrabani.

Computerworld's Premier 100 IT leaders say they agree that the key to successful global IT operations is knowing your people and how they work best. For Mehrabani, it was knowing that a call from Asia to the U.S. for support wouldn't be as effective as local dialogue.

For Barbra Cooper, group vice president and CIO at Toyota Motor Sales U.S.A. Inc. in Torrance, Calif., it was knowing how to pluck the strengths from each culture to form a seamless IT operation. "You have to find the best blending of culture for balance and build a new management model," she says. The merging of Japanese and American cultures at Toyota, which has operations in 26 countries, has wedded the best traits of both groups, Cooper says.

"The Japanese corporate culture brings more civility and less negativism throughout the informal corporate network," she says. "The Americans bring more risk-taking and the ability to adapt and be flexible."

You can't allow one culture to dominate another, adds Cooper. Instead, the challenge is to combine them. However, Toyota has only recently placed a few non-Japanese IT professionals in locations other than the U.S., and the company has just started to focus on moving away from a Japanese-dominated view and developing a global IT strategy and structure. It's important to guide the development of this global group, says Cooper, so she's helping form a global architecture committee that will create a business alignment strategy and link it to Toyota's global objectives.

> "YOU HAVE TO FIND THE BEST BLENDING OF CULTURE FOR BALANCE AND BUILD A NEW MANAGEMENT MODEL."
>
> – BARBRA COOPER, GROUP VICE PRESIDENT AND CIO, TOYOTA MOTOR SALES U.S.A. INC.

Seamless IT

Lawrence Kinder faced a different kind of global challenge. He is former CIO and senior vice president at Avis Group Holdings Inc. and now executive vice president and CIO, with global responsibility for IT, at Cendant Corp., which wholly acquired Avis Group March 1. His company, a service and information provider for automotive transportation and vehicle management in Garden City, N.Y., grew internationally in 1999 by acquiring PHH Vehicle Management Services (now PHH Arval in Hunt Valley, Md.), the world's second-largest vehicle leasing and fleet management company, and Wright Express LLC in South Portland, Maine, the world's largest credit card and information services provider.

"We grew organically in North America and built a solid and stable IT foundation that we have been able to leverage in Europe," Kinder says. The key is to take the time to understand the day-to-day workings of the local IT group, he says, and to put strategic IT on the back burner so the groups can focus on leveraging their cultures and talents.

Kinder says he regularly brings together company leaders with similar roles from the U.S., Canada and Europe to "give each other a shot of Adrenaline." He says developing and supporting global businesses is more demanding than supporting only local requirements, and, thus, it requires more time to strategize. "Giving IT staff the opportunity to think more broadly about their applications and solve international business problems has created a . . . true learning organization," he says.

But at the end of the day, it all comes down to people. Kinder says he finds leaders with high "emotional quotients," or EQs, who understand people and different cultures, and he helps them to lead by example.

"I take the 'train-the-trainer' approach," he says. That means having a core team of leaders with a clearly articulated approach to project management and programming who can go into any country and "preach the gospel of understanding and best intentions," says Kinder.

For example, he placed one key leader — an American with a high EQ and a wealth of knowledge — at PHH in Europe, but he made up the rest of the team with Europeans. "If we transplanted people and put them into the European culture, it would just be overwhelmingly full of Yanks," he says. In a global merger, Kinder says, it's important to develop a common understanding of objectives and create a new standard for all teams.

"People come from completely different experiences in life, both professionally and personally," he says. "So get together and come up with joint standards for quality and professionalism."

One example of this is the way technical documentation is developed.

"Some cultures use memos and e-mails as a formal means of communication. God forbid you don't read the e-mails. Something very critical can be in the third paragraph," says Kinder. "Other cultures, like America, are much more verbal."

Global Thinking

Management at Flashline.com Inc., a Cleveland-based marketplace and portal for software components, is just starting to think about going global, according to Chief Technology Officer Gary Baney. "We recognize that software components have no national or language boundaries, so we have got to be an international market," he says.

The first step, taken last year, was to visit Hong Kong to meet with Chinese employees about expansion into that market. Baney says he found very different work methods and mores from those in the U.S.

"I came away with the sense that within the nation of China, there isn't the urgency in terms of time to market and getting product out the door as [there is] in Silicon Valley," he says.

This can cause a gap in communication that makes it essential to find a Chinese national to help create a productive working environment. Baney says it helps that he teaches at Case Western Reserve University in Cleveland and can target bright, young foreign students to become Flashline.com liaisons to their home countries.

Communicating across nations and time zones is another challenge of going global, says Baney. On the plus side, you can have your software development running 24 hours a day, he says. On the other hand, if a developer has an urgent question, he may not get an answer for six or seven hours. "The whole communications cycle is a constant challenge, from timeliness, quality and perspective of interpretation," says Baney.

But addressing the cultural, regional, geographical and people-management issues is all for naught if your company lacks a technology infrastructure to unify the whole organization.

Cooper says building an information infrastructure — one that allows for cost-effective delivery of technology — is essential to any global IT group or e-business venture. Developing an infrastructure strategy for accessing the Web will let such groups "exploit the Web for the reusing of components, the sharing of digital assets and ensuring that your branding strategy is consistent in terms of e-commerce deployment," she says.

Mehrabani agrees. "Networking and a unified IT infrastructure is the basic electricity for global IT," he says. "With it, you may not be global, but without it, you definitely cannot be global."

Leinfuss is a freelance writer in Sarasota, Fla.

CAN THIS IT DEPARTMENT DELIVER?

Yes, it usually can, but it takes a leader with commitment to the company and knowledge of the core business

BY DAWNE SHAND

There's never been a tougher time to be an IT leader. They hold responsibility for everything from e-commerce projects to supply-chain applications and face mounting pressure from their boards to justify IT spending. So it comes as no surprise that CIO turnover is at an all-time high.

The labor shortage and resulting lure of job offers contribute. But how do you know if you're going from the frying pan into the fire by taking the reins of an IT department that's beyond saving? To answer that question, we turned to three Premier 100 honorees from our 2000 list: Charlie Feld, Richard L. Hudson and James Donehey. Each agrees that there are areas to assess in a company, but ultimately, what it takes to save an IT department has less to do with the department itself and more to do with its leader.

"Hardly a company or function exists where the [technology demands] don't outreach the capabilities," says Charlie Feld, CEO and president of The Feld Group, a consultancy in Irving, Texas, that specializes in turning around IT organizations in the short term and finding the talent that can fill the CIO role for the long term. Before that, Feld served as CIO at Frito-Lay Inc. in Plano, Texas. "Lots of CIOs get into situations where they're overextended or [the demands] are unrealistic," he says.

But Feld says his team consistently finds these attributes in troubled IT departments: good technical skills that are underutilized and a team of people who genuinely want to do well. The weakness is usually a lack of focus and leadership. CIOs must passionately want to make a difference, says Feld, and it's a lesson easily forgotten in the face of seemingly insurmountable problems.

"CIOs get caught up in the 'there aren't enough good ones' mentality," says Feld. In fact, Feld says he believes the IT labor shortage isn't as severe as is commonly thought, because large IT departments are working at 30% to 40% productivity. Too many IT staffers work on legacy applications, and too few have an incentive or opportunity to upgrade their skill levels. Or they may work on start-and-stop projects. And CIOs often don't have the people skills necessary to unleash this latent talent.

Richard L. Hudson, former CIO turned consultant

PHOTO BY PAM FRANCIS

Jim Donehey, former CIO at Capital One Financial Corp. in Falls Church, Va., and before that CIO at The Goldman Sachs Group Inc. in New York, agrees that it's rare that an IT leader is undone by a department's lack of technical competence. CIOs instead need to assess the senior management team at a company before taking the IT leadership position, he says.

"Invariably, a senior management team doesn't understand technology, or they are afraid of it or the board isn't grounded in technology and won't relinquish control," Donehey says. That's when to turn down the job, he says.

But with such high demand for their job skills, says Donehey, temptation looms large. "After two years, if things aren't going all that well and the recruiter calls and offers a 30% to 40% pay increase, the opportunity to relocate for personal interests or to try new industries is hard to resist," he says.

Those job-hoppers typically aren't in tune with the business interests or the shareholders, says Richard L. Hudson, former CIO at Global Marine Inc. in Houston and now a consultant to CIOs. He says some CIOs fail to clarify with management what constitutes success. Once in the job, they realize that there are drastic differences of opinion and no clear expectations — and then it's too late. Many CIOs have arrived in their positions thanks to project management skills — skills that don't necessarily scale to what is now a boardroom-level job, says Hudson.

"CIOs forget they work for cement companies," he says. And as a result, they leave because they don't commit to the core business, be it financial services or manufacturing. Enamored of the new technologies, CIOs forget that IT isn't separate from the rest of the firm, says Hudson.

He says the requirements of the position and the pace of change in technology have outstripped the capabilities of many who hold the position. Having responsibility for the accounting systems in the back office differs greatly from supporting a supply chain. CIOs need all the technical skills as before coupled with boardroom skills.

To a degree, CIO turnover occurs when senior management neither understands nor appreciates the impact IT can have on the company's business. And the reality is, the job is harder than most who hold it can comprehend. ◗

Shand is a freelance writer in Arlington, Mass.

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PREMIER 100 IT LEADERS 2001

IN THEIR OWN VOICES

Premier 100 honorees share leadership insights

Mark Baker, vice president of IT

Boys & Girls Clubs of America

How have you recommended and implemented change at your organization?

Boys & Girls Clubs of America has launched a massive initiative to facilitate the development and deployment of 2,500-plus technology sites throughout the U.S. and at military bases around the world. This initiative required the development of a detailed plan, department structure changes, hiring staff and selling the plan across the organization to create multiple cross-function teams.

How have you inspired others?

Realizing that most IT professionals can become consumed with work and lose focus on their personal lives, I require that all project planning has zero overtime and no weekend work, when possible. This keeps the staff balanced with their families and shows genuine concern for the individuals.

Character is defined as what a person will do when no one else is looking. I encourage IT leaders to remember that point when scheduling resources – particularly people. ▶

TOP 100	COMPANY (AT TIME OF SURVEY)	IT EXPERIENCE	BUSINESS MANAGEMENT EXPERIENCE	TOTAL WORK EXPERIENCE	FIRST JOB
Automotive					
Barbra Cooper Group VP and CIO	**Toyota Motor Sales U.S.A. Inc.** www.toyota.com	27 years	27 years	30 years	Executive assistant
Debra Domeyer CTO	**CarsDirect.com** www.carsdirect.com	18	12	22	Grocery store cashier
Business services (noncomputer)					
Amy S. Courter VP of MIS	**Valassis Communications Inc.** www.valassis.com	17	15	17	Programmer/operator
Mark Gembicki Chairman	**WarRoom Research Inc.** www.warroomresearch.com	19	15	19	Computer aide/analyst
Gil Hoffman CIO	**Maritz Inc.** www.maritz.com	28	6	28	Systems analyst
Paul Johnson VP of information systems	**Ricoh Canada Inc.** www.ricoh.ca	2	20	30	Warehouse company co-owner
Leonard Tenner CIO	**Sageo LLC** www.sageo.com	39	25	40	Pilot plant engineer
Computer manufacturing					
Jerry Lepore Exec. VP of technology and eCRM	**ProAct Technologies** www.proactcorp.com	22	15	22	Biology teacher
* **Michael O'Rourke**, Exec. VP of development and technical operations	**Agillion Inc.** www.agillion.com	11	16	19	Software engineer
S.P. Rana CTO	**Exterprise Inc.** www.exterprise.com	10	10	20	Computer science professor
Pito Salas Co-founder and CTO	**eRoom Technology Inc.** www.eroom.com	24	21	24	Systems programmer
Lily Shue Systems manager	**Sony Electronics Inc.** www.sony.com	15	8	13	Programmer
Computer services					
Gary Baney CTO	**Flashline.com Inc.** www.flashline.com	20	25	28	Computer science professor

TOP 100	COMPANY (AT TIME OF SURVEY)	IT EXPERIENCE	BUSINESS MANAGEMENT EXPERIENCE	TOTAL WORK EXPERIENCE	FIRST JOB
Linda Beck Exec. VP of operations	**EarthLink Inc.** www.earthlink.net	16 years	12 years	16 years	NSA programmer
Brian Behlendorf CTO and founder	**CollabNet Inc.** www.collab.net	8	5	8	Chief engineer
Lisa Colnett CIO	**Celestica Inc.** www.celestica.com	4	15	20	Production control planner
Anish Dhanda Co-founder and president	**netNumina Solutions** www.netnumina.com	7	6	16	Education specialist
Allan R. Frank President and CTO	**Answerthink Inc.** www.answerthink.com	26	16	26	Auditor
Loren Goodman, director of technology research and development	**Calypso Systems Inc.** www.calypsosystems.com	10	7	10	Programmer helper
Stephen E. Hays VP and director of information systems	**G.A. Sullivan** www.gasullivan.com	17	17	17	Software engineer
Bobbi Heath VP of engineering	**Conjoin Inc.** www.conjoin.com	9	21	23	Technical staffer
Harold Kester CTO	**Websense Inc.** www.websense.com	33	26	33	Software engineer
Hong Ki Kim, CIO of Samsung Group; CEO of Samsung SDS	**Samsung SDS Co.** www.sds.samsung.com	25	12	30	Bank loan processor
Robert Klotz CTO	**SilverBack Technologies Inc.** www.silverbacktech.com	15	5	15	U.S. Navy crewman
Joanna Kuo Exec. VP	**Experian Information Solutions Inc.** www.experian.com	22	10	34	Language instructor
Charles Lewis CTO and exec. VP of platform engineering	**TidePoint Corp.** www.tidepoint.net	7	4	9	Software developer
John Mihalovich CTO	**neoIT** www.neoIT.com	15	8	18	Telecommunications engineer
Bill Miller CTO and exec. VP	**StorageNetworks Inc.** www.storagenetworks.com	10	10	18	Process engineer
Larry K. Peterson VP of corporate technical services	**Gelco Information Network** www.gelco.com	19	10	21	Administrative assistant
Bob Pfeiff CTO	**CrossTier** www.crosstier.com	12	7	18	U.S. Navy officer
Nancy D. Reyda President and COO	**RetailersMarketXchange** www.rmx.com	2	20	20	Chemical engineer
Kim D. Ross CIO	**Nielsen Media Research Inc.** www.tvratings.com	23	12	23	Semiconductor engineer
Ron Shelby CEO	**XMLSolutions Corp.** www.xmls.com	24	21	26	Claim representative
*** Mitchell J. Shively** Systems integration executive	**Crowe Chizek** www.crowechizek.com	21	15	21	Maintenance programmer
Defense/aerospace					
*** Bob Ventimiglia** Team coach	**Lockheed Martin Corp.** www.lockheedmartin.com	30	20	32	Analytical engineer
Education					
Ellen Chaffee President	**Mayville State University and Valley City State University** www.vcsu.nodak.edu	7	30	34	English teacher
Dean Lane Exec. VP and CIO	**Masters Institute of Technology** www.mastersinstitute.edu	21	21	27	Systems analyst
Energy/utilities					
Roger K. Mowen Jr. VP of global customer services and CIO	**Eastman Chemical Co.** www.eastman.com	10	20	30	Sales representative

PHOTO BY WALTER CALAHAN

Marge Connelly (left) and Laura Olle, co-CIOs

Capital One Financial Corp.

How have you inspired others in your company?

We recognized that we needed to create a greater sense of ownership among our managers, [so] to do this we established a "board of directors" made up of the senior IT leaders. This board and its five committees were empowered to make decisions for the organization and to set the strategic direction. Our success as an organization was placed squarely on the board's collective shoulders.

There were a number of cynics who worried that this group would create bureaucracy and become a bottleneck. Instead, we have found that the groups have created new processes that reduce decision-making delays. It is now apparent that the board in itself was not the answer. The solution to our problem came from creating an expectation of cooperation, an environment of accountability, a commitment to excellence and the sense of ownership.

How have you persuaded people to follow your direction?

[When we assumed leadership of IT], we recognized that the organizational structure was interfering with the overall effectiveness of IT. . . . Our first step was to engage the IT leadership and get their commitment to the need for change.

Step 2 was to get them to present options and make recommendations. Based on their recommendations, [we] developed a solution that met the requirements: agility, accountability and efficiency.

The final step was to get the support of our stakeholders. Once the management team had committed, we all took accountability for selling it to our various stakeholders. By getting the leadership committed not only to the process and the need for change but also to the ultimate outcome, we were able to make a compelling case for action. ◗

Carl Wilson, executive vice president and CIO

Marriott International Inc.

How have you brought about change at your company?

By aligning the IT strategy with the business strategy over the past three years, Marriott's senior management has grown to consider technology as an investment rather than an expense. The concept of assigning a business lead and an IT lead to all major projects that are technology-enabled starts at the executive level.

Executive decision-making meetings, such as Marriott's Business Strategy Review, e-Business Council and Digital Business Strategy, are all cross-functional and co-led. As a result, IT better understands and supports Marriott's business strategy, and business executives have a much better understanding of what technology can and can't do. This provides Marriott with a sustainable competitive advantage.

What's the most valuable advice you have received in regard to leadership?

I learned a very valuable lesson from David Packard, founder of Hewlett-Packard, when he spoke at a conference I attended years ago. He said you should measure, recognize, reward and compensate people based on what goals you want them to achieve, and they'll figure out how to be successful.

This has proven to be true in my career. If you don't tell people what is expected of them, don't be surprised if they don't perform. To bring about positive change, you often have to focus first on what you need to stop doing to make resources available. ◗

TOP 100	COMPANY (AT TIME OF SURVEY)	IT EXPERIENCE	BUSINESS MANAGEMENT EXPERIENCE	TOTAL WORK EXPERIENCE	FIRST JOB
Greg Vesey, VP of e-business and general manager of the business service center	**Texaco Inc.** www.texaco.com	5 years	12 years	20 years	Collections agent
Finance/insurance/real estate					
David H. Annis Group senior VP and CIO	**The Hartford Financial Services Group Inc.** www.thehartford.com	25	0	25	Engineering trainee
Cecilia Claudio, senior VP, CIO and chief transformation officer	**Farmers Group Inc.** www.farmersinsurance.com	30	0	30	Programmer trainee
Frank Colletti Director of e-business solutions	**Zurich U.S.** www.zurichus.com	11	5	16	Programmer trainee
Charles C. Emery Jr. Senior VP and CIO	**Horizon Blue Cross/Blue Shield New Jersey** www.bcbsnj.com	32	30	34	Aerospace engineer
Ken Frayer Associate VP of IT strategy and support	**Nationwide Insurance Cos.** www.nationwide.com	19	11	30	Rating and coding supervisor
Samuel Joseph VP of IT	**Eagle Asset Management Inc.** www.eagleasset.com	19	13	21	Software analyst
Bob Lamoureux CTO	**WorldStreet Corp.** www.worldstreet.com	22	12	22	Memory design engineer
CO-WINNER **Laura Olle,** senior VP of systems development and business information officer	**Capital One Financial Corp.** www.capital1.com	13	22	25	Teacher of autistic children
CO-WINNER **Marge Connelly,** domestic card operations and IT Infrastructure	**Capital One Financial Corp.** www.capital1.com	1	15	16	Bank representative
Robert A. Plante Exec. VP and CIO	**The CIT Group Inc.** www.citgroup.com	18	10	24	Programmer
*** Bob Prochnow** CIO and CTO	**SiteStuff.com Inc.** www.sitestuff.com	20	20	30	Software developer
E.P. Rogers VP and CIO	**The MONY Group Inc.** www.mony.com	34	25	35	Burster operator
Wayne Sadin Exec. VP and CIO	**Bank United Corp.** www.bankunited.com	22	24	28	Financial consultant
Rick Stiegler CTO	**LendingTree Inc.** www.lendingtree.com	22	10	22	Systems engineer
George T. Vrabel Senior VP	**Bank of America Corp.** www.bankofamerica.com	26	24	30	U.S. Navy officer
Allan P. Woods Vice chairman and CIO	**Mellon Financial Corp.** www.mellon.com	6	30	42	U.S. Marine Corps
Food industry					
Mary Olsen Dielman VP of technology	**Donatos Pizza** www.donatos.com	16	12	23	Insurance counselor
Stephen Finnerty Senior VP and CIO	**Kraft Foods Inc.** www.kraftfoods.com	30	20	30	Programmer/analyst
Government					
Clayton E. Lewis Network services division manager	**City of Tulsa, Okla.** www.ci.tulsa.ok.us	25	18	28	Programmer
Paulletta C. Thomas CIO	**VA Central Alabama Veterans Health Care System** www.va.gov	12	15	32	U.S. Navy servicewoman
Wayne J. Thompson Chief of decision support systems	**Wisconsin Department of Health and Family Services** www.dhfs.state.wi.us	10	36	36	Research supervisor
Health/medical services					
Jerry Griffin VP and CIO	**Illinois Masonic Medical Center** www.immc.org	30	28	33	Systems engineer
Lynn Musselwhite, systems director of patient financial services	**Wellmont Health System** www.wellmont.org	10	19	19	Financial specialist

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*Available to qualified IT professionals in the U.S. and Canada.

Nancy D. Reyda, president and COO

RetailersMarketXchange

How have you brought about change at your company?

I had the opportunity to lead the reinvention of my company's franchise retail business model around technology. We engaged the home office and field sales employees to reinvent everything they did around a daily connection with their retailers through a deeply functioning Web application and a state-of-the-art call center. The net result was grassroots ownership of a new way of doing business that built on their strengths to create new value and make it easy to do business. The value was delivered in reduced costs to bring the franchise brand to market and a new platform for growth.

How have you inspired others?

The RMX team is facing a significant challenge leading change in our sector. I have found that our business environment is dynamic and our customers' needs are evolving. This drives constant change in our business model and our execution of priorities. I have found that engaging the team to embrace this changing environment as the fuel for our creativity is critical to our success. I share our business opportunities and challenges openly with the team so we can all own the evolution of our business. That deeply personal ownership drives the fire in their bellies. ◗

TOP 100	COMPANY (AT TIME OF SURVEY)	IT EXPERIENCE	BUSINESS MANAGEMENT EXPERIENCE	TOTAL WORK EXPERIENCE	FIRST JOB
Manufacturing (discrete; noncomputer industry)					
Edward T. Flynn Chemical industries CIO	**FMC Corp.** www.fmc.com	6 years	19 years	19 years	Chemical process engineer
Barry Kadets CIO and VP of information systems	**Bacou USA Inc.** www.bacouusa.com	27	5	32	U.S. Army officer/cost analyst
Suzanne P. Krupa VP and CIO	**The Rowe Cos.** www.therowecompanies.com	19	15	21	Service coordinator
Susan McKay VP of customer and information systems	**Aircast Inc.** www.aircast.com	5	23	25	Assistant buyer
Mostafa Mehrabani VP and CIO	**TRW Inc.** www.trw.com	21	10	21	Systems engineer
Robert R. Ridout VP and CIO	**Du Pont Co.** www.dupont.com	24	8	32	Programmer
Robert A. Rosati Director of information services	**Werner Co.** www.wernerco.com	12	7	16	Medical information manager
Media and publishing					
Kevin D.E. Book Senior director of technology	**The Motley Fool Inc.** www.fool.com	7	4	15	Research associate
Tom Cottingham Founder and CEO	**TechRepublic Inc.** www.techrepublic.com	15	16	20	Admissions counselor
Donald L. Feinberg CTO	**IPnetwork.com** www.ipnetwork.com	32	15	32	Software engineer
André Mendes VP and CIO	**Public Broadcasting Service** www.pbs.org	19	9	21	Programming teacher
Steve Wadsworth President	**Walt Disney Internet Group** www.dig.com	5	14	17	Systems analyst
Mining/agriculture/construction					
Chris Corzine Director of IT	**BuildPoint Corp.** www.buildpoint.com	8	4	12	Service technician
W.K. Gus Otto Senior systems analyst	**Caterpillar Inc.** www.cat.com	23	4	31	Manufacturing worker
Donald H. Zacherl CTO	**NAHB Research Center Inc.** www.nahbrc.org	20	26	26	Military serviceman
Nonprofit					
Mark Baker VP of IT	**Boys & Girls Clubs of America** www.bgca.org	11	18	24	Film production manager
Marcia A. Balestrino CIO	**Girl Scouts of the U.S.A.** www.gsusa.org	27	5	30	Programmer
Pharmaceutical					
Jon Carrow Director of global IT sourcing	**American Home Products Corp.** www.ahp.com	8	6	12	Financial analyst
Telecommunications					
**** Thomas R. Grimes** Executive director of CIS operations	**Qwest Communications** www.qwest.net	32	26	32	Computer hardware designer
David B. Ward President and CEO	**ThinkLink Inc.** www.thinklink.com	22	18	22	Computer operator
Transportation					
Marty Larson VP of e-commerce and marketing technology	**Consolidated Freightways** www.cfwy.com	10	17	19	Sales executive
Patrick Wise VP of e-commerce	**Landstar System Inc.** www.landstar.com	17	25	27	Bank teller

COMPUTERWORLD 100 BEST PLACES TO WORK IN IT 2001

Let Us Know...

What Makes You Such a Great Employer?

Why is your company a best place to work for IT Professionals?

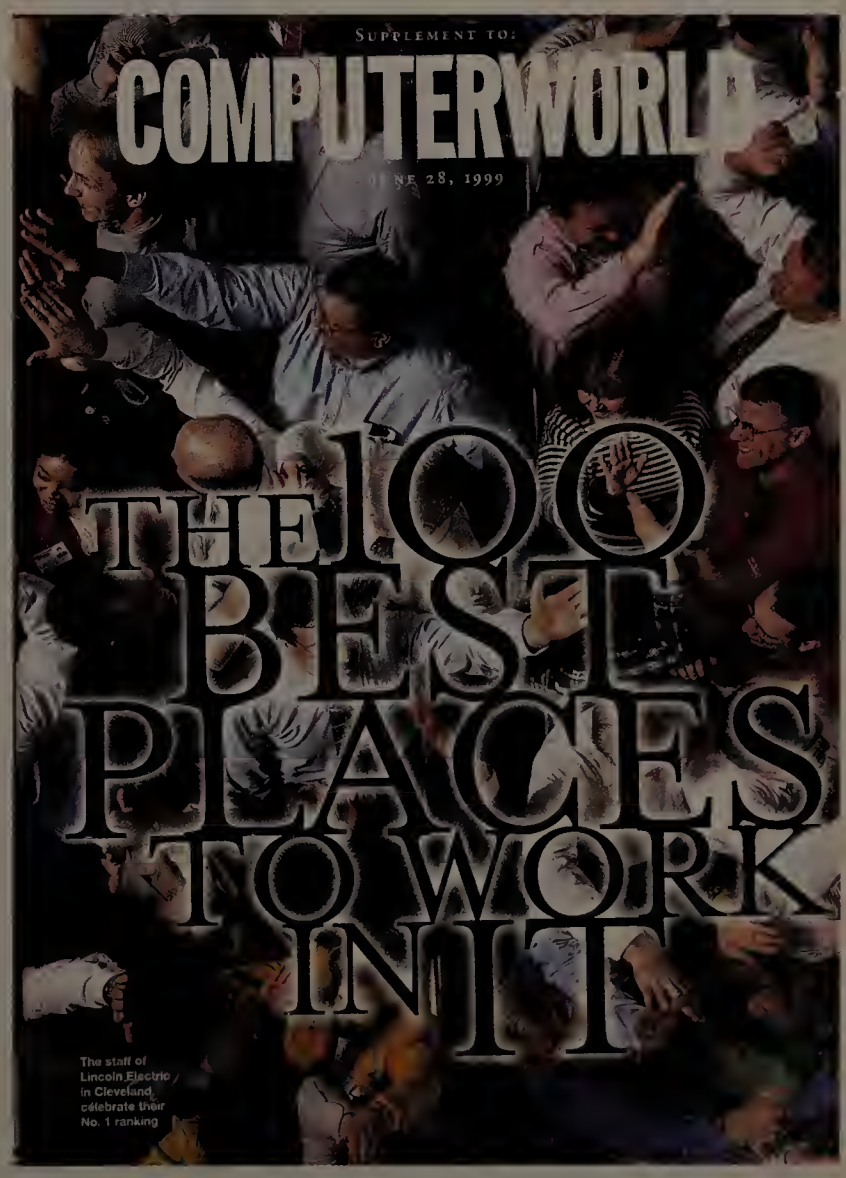
Computerworld is again conducting its annual survey of the **100 Best Places to Work in IT,** and invites companies to visit our web site, participate in the survey, and tell us why you are clearly among the very best places to work for IT professionals.

Results of the survey will be published in the June 4, 11, 18 and 25 issues of Computerworld as a special series, each week looking at different aspects of what makes for a top employer in information technology.

Best Places to Work in IT are those that excel at:

- Exciting technology projects and work
- Training and education investments
- Diversity hiring and advancement
- Benefits and compensation
- Retention and employee job satisfaction
- Career and skills development

If your company measures up, tell Computerworld readers your story, and what have been the secrets to your success.



The 100 Best Places to Work in IT survey questionnaire, with instructions and methodology, is available on Computerworld's web site during the month of February and March. Go to www.computerworld.com

100 Best Places to Work in IT, visit

www.computerworld.com

Donald H. Zacherl, CTO

NAHB Research Center Inc.

How have you persuaded people to follow your direction?

If you are not going to make a change for the better, why be a leader? That is what leaders do; look for, encourage, foster, cajole and even compel organizational change.

You always start by finding the strategic flex points where a small change can give big results. [For example, one day] our help desk, as usual, was swamped. I told our support techs to start calling people who did *not* have a problem. They couldn't believe we were going to ask for work, but soon after, they couldn't believe the positive response. "Proactive" calls pleased the users (who almost never had a problem) and relieved the constant stress of dealing with cranky people by talking with them when they were glad to hear from you.

Now the help desk makes proactive calls whenever work slows down. And the best part is that these calls reduce high-priority trouble tickets by solving them before they are a crisis. ◗

TOP 100	COMPANY (AT TIME OF SURVEY)	IT EXPERIENCE	BUSINESS MANAGEMENT EXPERIENCE	TOTAL WORK EXPERIENCE	FIRST JOB
Travel					
Arthur F. Champernowne Software architect	**Expedia Inc.** www.expedia.com	27 years	0 years	27 years	Research officer
Bob DeRodes, president and CEO; CIO at Delta Air Lines Inc.	**Delta Technology Inc.** www.delta-air.com	31	24	31	Computer operator
Jeanne M. Gonda Director information systems	**GetThere Inc.** www.getthere.com	15	4	21	Computer operator
Rickie E. Hall VP and CIO	**ANC Rental Corp.** www.ancrental.com	18	10	25	Junior programmer
*** **Lawrence Kinder** CIO and senior VP	**Avis Group Holdings Inc.** www.avis.com	23	10	23	Systems consultant
Lloyd Marino VP of IT	**WorldTravel BTI** www.worldtravel.com	12	7	17	Technology coordinator
Carl Wilson Exec. VP and CIO	**Marriott International Inc.** www.marriott.com	30	27	34	Project manager
Wholesale/retail trade					
Jon C. Dell'Antonia VP of MIS	**OshKosh B'Gosh Inc.** www.oshkoshbgosh.com	36	36	40	Data processing officer
Pat Enright Director of corporate information systems	**Clark Retail Enterprises Inc.** www.clarkretail.com	13	9	13	Programmer
Evelyn Follit Senior VP and CIO	**RadioShack Corp.** www.tandy.com	30	26	30	Programmer/analyst
Frank Hood VP of information services	**Krispy Kreme Doughnut Corp.** www.krispykreme.com	14	13	14	Electronic engineer
Brian Kilcourse Senior VP and CIO	**Longs Drug Stores Corp.** www.longs.com	25	0	25	Bass guitarist
Gary King, Exec. VP of operations and senior technical officer	**BarnesandNoble.com Inc.** www.bn.com	16	5	21	Systems analyst
Brian T. Light Senior VP and CIO	**Staples Inc.** www.staples.com	15	10	15	Staff consultant
Sean Nolan VP of technology and CTO	**Drugstore.com Inc.** www.drugstore.com	10	0	10	Development manager
Jeff Orton CIO and VP of logistics	**Wilsons The Leather Experts Inc.** www.wilsonsleather.com	17	14	19	Proposal coordinator
Jon Ricker President and CIO	**The Limited Inc.** www.limited.com	28	24	28	Mechanical engineer

* Changed companies ** Retired recently *** Title change/promotion

Methodology

How we selected the Premier 100 IT Leaders

The Premier 100 project was designed to honor individuals who have had a positive impact on their organizations through technology; who manage internal IT organizations, mentor and motivate their staffs with interesting challenges and positive work environments, envision innovative solutions to business challenges and effectively manage and execute IT strategies.

Define the IT Leader

Our first step was to define the IT leader. After conducting a number of in-depth interviews with successful CIOs at U.S.-based organizations, *Computerworld* editors identified a set of common characteristics that we believe describe the successful IT leader.

Based on these interviews, we define the IT leader as an individual who does the following:

- Promotes an IT vision that supports the company strategy.
- Understands business needs and budgetary responsibilities beyond the IT department.
- Ties technology and innovation to specific business needs and goals.
- Learns from failure and uses these experiences to improve IT processes and products.
- Hires inquisitive people who like to explore and who are innovative and creative.
- Creates work environments that are positive and rewarding to employees both inside and outside of work.
- Encourages staff to be innovative and come up with ideas.
- Motivates with recognition and opportunity, not just money.
- Compares best practices with those of peer companies.
- Leverages technology vendors as partners.
- Develops leadership skills inside the IT organization.
- Is viewed as a leader by other executives and the IT staff.

Call for Nominations

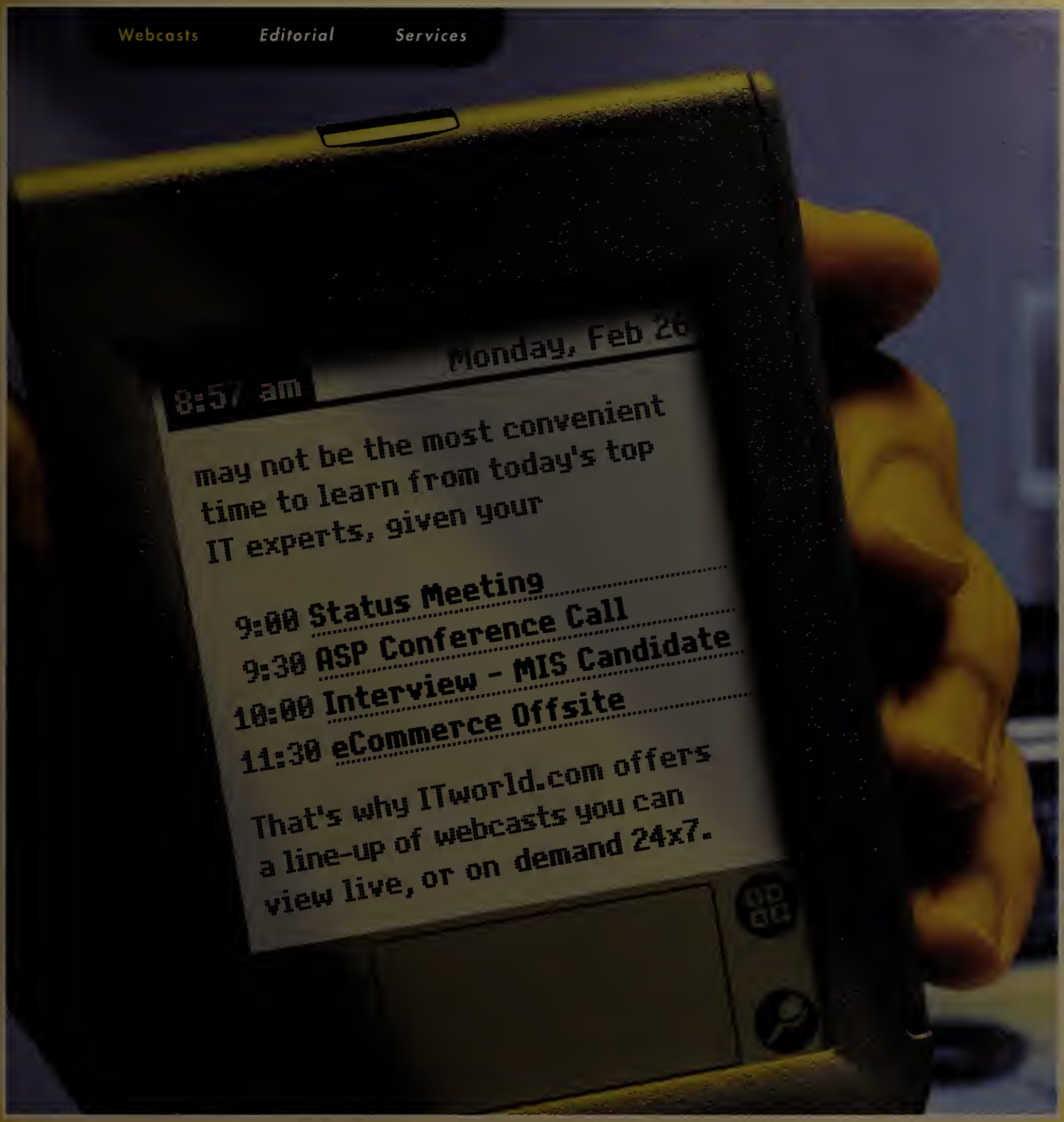
Computerworld invited an extensive list of editors and executives to nominate the IT professionals they considered to be premier IT leaders. Business executives, chairmen and members of IT leader development organizations, IT recruiters and other IT industry associations as well as *Computerworld* editors nominated the individuals who they felt met our definition of the IT leader. We received more than 500 nominations from Sept. 11 through Oct. 13.

Computerworld's IT Leader Index

In November and December, the candidates answered a 62-question survey that addressed topics including their background and experience, management style, the work environment they create, their attitude toward risk and innovation, technology testing and implementation philosophy, the size of their IT organization in terms of the number of internal users they support, head count and IT budget responsibilities.

Using *Computerworld*'s IT Leader Index, which is a measurement of how closely an individual matches our definition of the IT leader, we analyzed the quantitative data. That data was scored separately and given equal weight. This list represents the IT professionals in whom the characteristics of the Premier 100 IT Leaders were most strongly represented. They are presented here in alphabetical order and by industry.

– Allison Wright



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LEADERS SOUP

Most of our Premier 100 IT leaders work long hours with their staffs, and so their lives are an open book. But they still had a few gems to share when we asked what their staffs would be surprised to learn about them

E.P. Rogers, VP and CIO, ▲ The MONY Group Inc.

"Ernie Davis, the first African-American Heisman trophy winner, was a big brother to me after my father died when I was 16 years old."

Ron Shelby, CEO, ▲ XMLSolutions Corp.

"I once was the key witness in a trial that sent an organized crime figure to prison."

Gary Baney, CTO, Flashline.com Inc.

"I was a Vietnamese linguist during the Vietnam War."

Gary King, executive VP of operations and senior technical officer, Barnesandnoble.com Inc.

"I can water-ski barefoot."

Evelyn Follit, senior VP and CIO, RadioShack Corp.

"I like to ride motorcycles and have raced one of my cars at the Limerock, Conn., track."

Jeanne M. Gonda, information systems manager, GetThere Inc.

"My husband and I like to hunt for edible mushrooms. We use them in soups, pastas and gourmet meals. We like to think of ourselves as 'geeks in nature,' using the appropriate Latin terminology for the ones that we find."

Lily Shue, systems manager, Sony Electronics Inc.

"I am a pro football nut and collect and trade baseball and basketball cards."

Jeff Orton, CIO and VP of logistics, ▲ Wilsons The Leather Experts Inc.

"I own a 1-ton diesel truck."

S.P. Rana, CTO, Exterprise Inc.

"I like painting and have even exhibited some of my work."

Stephen Finnerty, senior VP and CIO, Kraft Foods Inc.

"I'm related to a Civil War general."

Joanna Kuo, executive VP, ▲ Experian Information Solutions Inc.

"I was a basketball player for three years on the Chinese National Team."

Suzanne P. Krupa, VP and CIO, The Rowe Cos.

"One of my first jobs as a very young adult was making the doughnuts at Dunkin' Donuts."

Ken Frayer, director of IT strategy and solutions, Nationwide Insurance Cos.

"I want to retire to the serenity of the mountains in northern Idaho."

Carl Wilson, executive VP and CIO, Marriott International Inc.

"I own seven Tommy Bahama shirts and like reggae music."

Premier 100 Stats

Past lives: 58% of Premier 100 honorees have worked as consultants, 42% have worked in research and development and 34% have worked on the administrative side of the house.

Power to the people: 93% of the honorees describe their management style as hands-off, delegating tasks and asking for updates; 7% say they manage closely, staying involved each step of the way.

Decisions, decisions: 98% of Premier 100 honorees say they seek consensus by soliciting input from direct reports early in the decision-making process. Only 2% say they research thoroughly, make decisions on their own and then inform their departments.

Great gurus: Peter Drucker, Jack Welch and Tom Peters topped their list.

Challenge them: 93% of Premier 100 leaders say they give their staffs interesting new assignments to reward outstanding performance; 91% say they also use money to reward a job well done.

Web surfers: Yahoo.com, Google and MSN are their favorite Web sites.

Good read: Most honorees said the last book they read was *Living on the Fault Line* by Geoffrey A. Moore (HarperBusiness, 2000).

Killer apps: The top three computing accessories they can't live without are laptops, personal digital assistants and cellular phones.

Marcia A. Balestrino, CIO, Girl Scouts of the U.S.A.

"I'm a country and western music fan."

Anish Dhanda, co-founder and ▲ president, NetNumina Solutions

"I've jumped out of a hot air balloon at 200-plus feet."

Bob DeRodes, president and ▲ CEO, Delta Technology

"I was in a music video with Mick Jagger."

Pito Salas
Co-founder and CTO, eRoom Technology Inc.

"I was a pingpong and yo-yo champion at the age of 12."

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WORKSTYLES

Handling Hacker Relations Is a Full-Time Job for Company Exec

Interviewee: Ned Lilly, vice president of hacker relations
Company: Great Bridge LLC (*www.greatbridge.com*), founded last May. Offers technical support, consulting services and development support for the PostgreSQL open-source database. PostgreSQL "was originally developed as a teaching tool at [the University of California at] Berkeley. It adds object capabilities to the Ingres database."
Main location: Norfolk, Va.
Number of IT employees: 25
Number of end users: 47

What's a VP of hacker relations? "It's largely an evangelistic job. In the open-source environment, hackers are the ones doing most of the work. I make sure we never forget that, and that we work with the hacker community in a productive way. [At first], my job involved a lot of explaining to the community our goals for PostgreSQL and that we aren't out to hijack the code."

Do you have a hacker background? "I'm a management guy, but temperamentally, I'm kind of a geek. The company wanted someone who could have a foot in both worlds."

How did you gain the hacker community's support? "I spent a lot of time learning, observing, trying not to say something stupid right off the bat. I'm very forthright about what I know and don't know, because there are some very sharp people in this Postgres hacker community, and they can sniff out a fake in no time."

Who's involved in the community? "Anyone can become a contributor. Typically, they first get into it because . . . they'd like to have some database functionality but no way do they want to pay for Oracle. The best code wins."

But the company is making money from their efforts. What do they get out of it, aside from the challenge? "We created the Postgres advisory community and invite members to join as a thank-you for the work they've done. These are people who for several years worked nights and weekends and made some really substantial contributions to the code. We want them to participate in our success, and we give them options in the company."

Do they find that suitable, given the current market for initial public offerings? "Everyone who is involved with Postgres feels really good about its prospects. It's not much of a stretch for them to [think] there's a market opportunity here. Oracle is monolithic, so it's not a leap to visualize [success]. The open-source database wave is starting to crest."

Have you had any conflicts with the community? "We wanted to make a fairly late-in-the-game addition to a backup-and-restore utility in a late beta version of the database, but there are some pretty well-established rules about when we institute a code freeze. Even though the database is open source, there's a fair amount of structure in our development process; you need that with [so many] people picking over the code. We tried to slip in the change too late, [and] we were publicly scolded. The Postgres group is a true meritocracy with a strong sense of the rules that we operate under. It was a good learning experience."

Workday: "The internal IT staff has pretty regular hours, but knowledge engineering is a 24/7 operation [with an on-call rotation]."

Dress code: Business casual, "but we don't object to hacker casual."

Free refreshments: Free Cokes and Starbucks coffee. "Our coffee maker has one of those 'Designed for Microsoft Windows' stickers on it – that's hacker humor."

Favorite item in the office candy dish: "Our CEO is maniacal about these awful things called Chuckles that he orders by the case."

– Leslie Jaye Goff (lgoff@ix.netcom.com)

What It's Like To Work at...

JIM CHAMPY

Net Disruption

IS THE INTERNET a "disruptive technology"? If so, so what? Those questions sparked fresh debate recently, when much-respected strategist Michael Porter argued that the Internet is just another channel to market goods and services and shouldn't be considered disruptive. It's not the kind of technology that would lead to industry restructuring, he claimed.

I was surprised at Porter's position. The Internet has certainly caused chaos, if not disruption. And Porter's colleague at Harvard Business School, Clayton Christianson, who wrote a book on disruption, would most likely disagree with him. But the issue of whether a technology is disruptive is more than an academic debate.

Michael Hammer and I first identified disruptive technologies when we wrote about reengineering. Disruptive technologies are the kinds of technologies whose impacts are hard to predict. The light bulb, the telephone, the automobile and the computer are examples of technologies that have had profound effects on how we live. But at the times of their introductions, their impacts were seen as incremental, if not inconsequential. Only the most aggressive prognosticators predicted their full impacts, and sometimes their crystal balls weren't very clear.

For example, futurist John Diebold first suggested that the impact of computers would be through automation and that machines would replace people. But the disruptive effects of computers have gone far beyond automating old processes and decreasing the number of people required to do a job. Computers — now more elegantly referred to as "information technology" — have had a radical impact on how companies operate and on the productivity of whole industries.

But history alone doesn't help us predict which unfamiliar technologies might be truly disruptive. So here are five questions that will help predict what might become a disruptive technology, using the Internet as a test case:

■ **Will the new technology enable work to be done at dramatically increased speeds?** When this happens, productivity can reach new levels. Just look at the process of instantaneous credit approvals that the Internet now enables.

■ **Will the new technology lead to radical cost reductions?** When this happens, companies can do more for less and change their fundamental economics. Technology services companies, for example, have been using the Internet to recruit employees at a fraction of their prior hiring costs.

Disruption provides the business case for radical change.

■ **Can the new technology lead to substantially improved quality?** Just think of the value of error-free performance. Most companies haven't leveraged the Internet in this way. It will take much more process redesign to improve quality, but the Internet has the ability to connect processes in ways that could virtually eliminate performance errors.

■ **Will the new technology change companies' relationships with their customers?** This is more than just asking whether the technology will provide a new sales channel. It's about changing what a company and its customers know about each other, then enabling a fundamental change in customers' experience. With the Internet, the answer to the question is clearly "yes."

■ **Will the new technology accelerate companies' ability to innovate?** If companies can find ways for a new technology to improve their creativity, they will have found a way to compete on a basis other than price. In strategy speak, that's called creating a new value proposition, like delivering a product or service that's more valuable in the customer's eyes. Merrill Lynch first did that when it started to aggregate customers' financial information into a single report.

The Internet seems to qualify as a disruptive technology. I believe it will eventually lead to radical changes in how businesses operate and in the eventual restructuring of some industries. This won't happen until companies redesign their business processes, so we have a good 10 years of work to do. But it's important to think about how a technology is likely to be disruptive. It provides the business case for action, the reason for a company to radically change operations. That's what it takes to leverage a disruptive technology rather than become its victim.

Champy is chairman of consulting at Perot Systems Corp. in Cambridge, Mass. He can be reached at JimChampy@ps.net.

FRANKLIN HAMMOND

SEE YO

As companies lean more o opment and management between customers and ve

THE FACT THAT WE LIVE IN A LITIGIOUS society is undeniable. But to what extent has lawsuit lunacy penetrated the world of IT? Are disaffected companies running to court over broken IT contracts as never before?

It all depends on how you read the numbers. "I sense that the IT world over the past decade has gone from becoming relatively less to relatively more litigious than the rest of the economy," says Tom DeMarco, a consultant at Cutter Consortium in Arlington, Mass. "Big systems integrators often have 50 concurrent lawsuits pending."

DeMarco, who is exposed to many IT-related lawsuits in his work as a litigation consultant, says the equivalent of 10% to 15% of many corporate IT budgets are consumed by legal costs. Court calendars are clogged with often baseless lawsuits brought by people who would rather fight than talk, he says.

Although precise numbers are hard to come by, there's evidence to suggest that the number of IT outsourcing lawsuits has increased significantly during the past few years. While many executives rail against filing suit at the drop of a hat, the situation is likely to get worse before it gets better.

Whether it's a matter of late delivery or unmet requirements, experts say that most problems arise from a failure to communicate.

CIOs can help their companies avert the pain of litigation by spelling out specifications and timetables upfront and by maintaining channels of communication with the vendor during implementation.

Bruce Webster, a consultant at PricewaterhouseCoopers in New York, recently completed a study of 25 years of litigation resulting from IT systems failures. His sampling of cases lends credence to the view that IT litigation has trended upward.

Of the 120 cases Webster studied, five were filed in 1974-76, 18 in 1988-90 and 23 in 1994-96. A decrease to 19 filings in 1997-99 "reflects a time lag in our ability to gather data on the most recent cases, rather than an actual downward trend in such legal actions," according to Webster's report.

But Webster is cautious about exaggerating the trend's significance. "My impression is that litigation is on the rise because the number of IT projects has been increasing steadily over the last 25 to 30 years," he says. "Before that, it was relatively rare to embark on a major project. Today, it is a fundamental necessity in both business and government."

So does an increase in raw numbers indicate a litigation explosion? According to Rick Matlus, research director at Stamford, Conn.-based Gartner Group Inc., the ratio of litigated IT projects to the total has actually remained steady over the past few years. "I have been checking with law firms that do this kind of work, and they have not seen an increase in litigation," he says. "Overall, less than 3% of all IT deals end up in arbitration or in court."

The Blame Game

In any event, when IT projects do fail, it's often easier for companies to blame the vendor for defective products or sleazy sales techniques than to take responsibility for any shortcomings themselves. In Webster's study, customers were five times more likely to initiate a lawsuit against vendors than vendors were to sue customers.

DeMarco says organizational politics often lead to unreasonable customer expectations, which in turn spawn irreconcilable differences with vendors. "Authority uses fear to get people to knuckle under and accept the feasibility of a desired result, no matter

how unreasonable," he says. If the CEO says a project must be completed within a year, then that expectation is set in stone.

The corporate blame game also tends to fuel litigation, says DeMarco. Once a project goes awry, those responsible would rather cover up their poor deal-making than try to fix it. "Litigation is a way to defer blame," he says. "The typical lawsuit can take three, four or five years. Litigation has the beneficial effect of deferring judgment."

One of the other factors that plays into the surge in IT litigation is the role that CEOs, chief financial officers and other senior business executives play in deal-making with vendors. "The projects are pitched to those with a stake in the company's profitability," says Joe Auer, a *Computerworld* columnist and president of International Computer Negotiations Inc. in Winter Park, Fla. "The vendor claims that outsourcing will drop *x* cents per share to the bottom line, and the executives start calculating their bonuses."

But vendors aren't necessarily the ones at fault. "The customer doesn't always perform what they need to do to get the product implemented," says Ann Jordan, general counsel for PeopleSoft Inc. in Pleasanton, Calif. "It is easier to blame the vendor than to go to your own management and say, 'We could have done a better job.' "

In October, PeopleSoft settled a lawsuit in which Newark, Del.-based W.L. Gore & Associates Inc., maker of the Gore-Tex fabric used in outdoor apparel, accused the software vendor, along with consultancy Deloitte & Touche LLP, of botching the installation of a human resources management system. Although Gore didn't specifically complain about PeopleSoft's product, it did contend that PeopleSoft foisted New York-based Deloitte's services on Gore and claimed that the consultancy wasn't up to the task.

The lawsuit charged that the software problems interrupted the firm's business operations. Terms of the settlement remain confidential, according to Jordan.

Adam Cohen, an attorney at the law firm Weil Gotshal & Manges LLP in New York, says he's seen similar situations, frequently involving failed Web site projects. In such cases, "the developer often points to the client and says that they didn't provide deliverables [in a timely manner] under the contract," Cohen says. But "it is rarely black and white. Each side has duties and obligations to the other."

Webster points to other problems on the customer side. "I've seen cases where the project champion leaves the company," he says. "His replacement has little or no stake in the project succeeding. Sometimes, there is also a small but influential group of users who like the way things were done before."

Avoiding Conflict

Want to avoid or manage conflict with third-party application development or outsourcing contracts? Consider these nine points:

1. **Agree** ahead of time to expectations, promises and contingencies.
2. **Include** performance and compatibility requirements, anticipated life span and acceptable levels of defects in systems specifications, as well as required functionality.
3. **Clearly define** key terms, conditions and activities.
4. **Review** documents up and down the chain of command in both organizations to make sure all relevant personnel understand what's promised and what's expected.
5. **Implement** small, comprehensible and workable systems at first before expanding into the desired large systems.
6. **Plan** to migrate off IT technologies that your organization doesn't control in order to avoid unplanned obsolescence.
7. **Get** expert legal and IT guidance before signing anything.
8. **Act** quickly when problems arise.
9. **Work** with the vendor to achieve the desired goal.

SOURCE: BRUCE F. WEBSTER, "PATTERNS IN IT LITIGATION SYSTEMS FAILURE (1976-2000)," PRICEWATERHOUSECOOPERS, NEW YORK, 2001

In some cases, problematic software implementations are the result of how they're handled — or mishandled — internally, according to Rich Reed, vice president for information and network technology at the Chubb Group of Insurance Cos. in Warren, N.J. "There has to be a program of change management that surrounds implementation of enterprise applications," he says. "The failure to educate users on operational changes will create potential problems."

When It's Time to Walk Away

Bill Donovan, CIO at Charlotte-based ocean transportation and logistics services firm CSX Lines LLC, says he and his CEO were both hot under the collar and ready to sue a Big Five consultant a few years ago over the unsuccessful implementation of a customized system for booking and tracking cargo. Both sides agreed to walk away from the project and call it a wash after the consultant waived any further payments under the contract.

But Donovan gleaned some important project management lessons from the experience. "We gave [the consultant] full accountability for the success of the project," he says. "Since then, we've never given an outside firm accountability. We manage the team in-house and hire contractors as needed."

Many CIOs recommend documenting both customer and vendor expectations from the get-go, which is precisely the job of Stuart Kliman, founding partner of Vantage Partners LLC, a Cambridge, Mass.-based consulting firm. Kliman helps companies find better ways to relate to one another, a task that's easier said than done. "Both vendors and customers are frustrated with the dynamic at play, but neither is comfortable taking the first step to change it," he says.

A language barrier almost brought down the relationship between The Leading Hotels of the World Ltd. (LHW), a New York-based marketing and reservations service, and SimNet Computing Ltd., a Japanese systems integrator. LHW hired SimNet in 1998 to hook up the LAN at its Tokyo installation with its WAN. SimNet installed $50,000 of software not authorized by LHW. When LHW refused to pay, SimNet threatened to sue.

"It was a communications problem," says Edward Nesta, LHW's CIO. "There was a discrepancy between what they thought we said vs. what was really approved."

Nesta and his team negotiated their way out of litigation by extending SimNet's service contract, thus allowing the vendor to recoup its losses. "We have an excellent working relationship with them today," he says. But Nesta surmises that the original problem could have been avoided had he placed a few key people on the spot to work directly with SimNet. ◗

Two CIOs face off over litigation issues. Page 44

Buxbaum is a freelance writer in Elizabeth, N.J. Contact him at pab001@aol.com.

U IN COURT

third parties to handle application devel- IT functions, more legal conflicts arise dors. By Peter Buxbaum

ON THE HOT SEAT

What would you do if a systems integrator failed to meet the deadline or specs in developing a strategic e-commerce system? By Peter Buxbaum

An IT project goes south – what do you do? Call your lawyer, says Bill Donovan, CIO at CSX Lines LLC, a Charlotte, N.C.-based ocean transportation and logistics services provider. Call your headhunter, says Bruce Blitch, CIO at Tessenderlo Kerley Inc., a Phoenix-based chemicals maker. *Computerworld* posed a few hypothetical questions to these CIOs to see how they would handle some difficult legal situations.

Bill Donovan
CIO, CSX Lines

A systems integrator you hired to develop a strategic e-commerce system has failed to meet the deadline spelled out in the contract and claims it will need at least 50% more time to complete the project. Your CEO wants to sue the contractor. What do you do?

Donovan: The fact that it's late isn't enough to warrant a lawsuit. I'd have to sit down with the CEO and explain the facts. If the contractor is doing a good job otherwise, the delay may involve a failure to define the specs properly. Dragging something like this into court would be ugly.

I'd tell the vendor the CEO wanted to sue them as a threat more than anything else. I'd ask them to help me work with the CEO and the business owner to clearly understand why the project is late and to see what the contractor and the in-house people can do to correct the problem.

Blitch: I'd call every headhunter I know and update my résumé. In my mind, the blame lies squarely at IT's doorstep. Any project involves planning and controlling. The CEO is probably not upset by the delay so much as the hundreds of thousands [of dollars] it will cost. That should have been something the CIO was managing. Every project should have had a plan. Having a plan implies having a metric with which to measure its progress. You don't just wake up one day and find that what should have been 100% [complete] is really only 50% [ready].

> I have no problem going to court, but you have to be careful to have your facts in order.

A commercial software package that your organization licensed to help manage its financial activities has failed to perform as advertised, leading to inaccuracies in billing statements and tens of thousands of dollars in operating losses, along with customer angst. The vendor blames your firm for customizations that were made to the package by your IT organization. What would you do?

Donovan: You have to sit down and find out what caused the problem and then fix it. But the vendor has to cooperate. If they don't, threaten arbitration or litigation. But in most cases, the vendor will work with you on this. I have no problem going to court, but you have to be careful to have your facts in order.

Blitch: I hear recruiters prefer the chronological format for résumés. The fault is not necessarily with the vendor. I don't believe all the advertising I see and read. An ounce of prevention is better than a pound of cure. You need to think through how to structure the deal upfront. Afterwards, it is a little late.

Bruce Blitch
CIO, Tessenderlo Kerley

> You need to think through how to structure the deal upfront. Afterwards, it is a little late.

A hacker has gained access to sensitive customer data, including credit card information and personal histories. A group of customers has filed a class-action lawsuit against your firm. What steps would you and your organization take next?

Donovan: I'd turn that over to the legal department immediately and get some high-powered outside help to take care of it.

Blitch: Getting into a litigation duel with your customers is not a path to future goodwill. Depending upon the demands of the customers and the negotiating skills of your corporate counsel and CFO, you are probably better off settling quickly. Long legal battles make rich lawyers and poor you. Pick your fights carefully.

A software programmer from your firm is recruited by a rival. Six months later, the rival introduces a software service for customers remarkably similar to one that your company launched a year ago. How would you respond?

Donovan: If we were a software house and our business depended on it, I'd want to get our lawyers and some outside counsel involved. But intellectual property rights are so amorphous that it's hard to do anything about it, even with a confidentiality agreement.

Blitch: Have your lawyers draft a really stern letter to this person and their employer. Rattle your sabers, but don't pull them from their scabbards. It should never go beyond this stage. Hope they back down based on the noise you are making. Enforcing employment contracts is notoriously hard to do.

If they don't back down, then count your blessings that you have a 12- to 18-month lead on your competition. If you haven't made any progress on enhancing functionality in that period of time, then you deserve to fall behind. ◗

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WANT TO LEAD? Do you have what it takes to inspire and influence others? CIOs reveal what they look for in potential leaders. Page 54

E-COMMERCE PITFALLS Web shopping may be easy, but technology problems and poor processes could keep the customers away. Page 48

XML GETS BUSY XML starts to deliver on its starry-eyed promises, but with every silver lining there's a cloud or two. Page 76

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HOLDING IT ACCOUNTABLE

A NEW ACCOUNTING STANDARD for software development will force dramatic changes in the way IT projects are run, reports Kathleen Melymuka. The bookkeeping rules require much greater discipline in project management and, like Y2K, they can't be ignored — not with the SEC watching. IT departments will need to keep detailed records of the time spent on tasks so that internal software costs are correctly fed into the general ledger. Application development units that can't handle these chores may be replaced by an outsourcer that can.

APPLICATION DEVELOPMENT

Report begins on page 46.

MORE MANAGERS MONITOR E-MAIL

Computerworld survey: Fearing lawsuits, loss of secrets, employers scan more worker messages

BY DOMINIQUE DECKMYN

Spot checks just aren't good enough anymore. The tide is turning toward systematic monitoring of corporate e-mail traffic using content-monitoring software that scans for troublesome words, according to an exclusive *Computerworld* survey.

About 38% of 75 corporate e-mail managers already use monitoring software either regularly or for spot checks. Of those who don't, 21% plan to install it next year, according to the survey.

The reason: Users of monitoring software said they're concerned about protecting their intellectual property and guarding themselves against litigation.

Put It in Writing

Four points that should be in an e-mail policy:

- A statement that computer systems are the company's property and are to be used for business purposes only.
- A clear definition of what is and isn't appropriate use of e-mail.
- A statement to employees that they can't expect e-mail to be private and that all e-mail may be monitored.
- An explanation that violations can lead to disciplinary action, up to and including termination.

SOURCE: MICHAEL OVEIDA, P.C., BORNSTEIN AND ASSOCIATES, ATTORNEYS AT LAW, & LAWCOMM, SAN FRANCISCO

"I didn't really realize how much of a problem I had until I started using [monitoring software]," said Jeff LePage, director of MIS at American Fast Freight Inc. in Kent, Wash.

LePage is using MIMEsweeper software from Kirk-

E-Mail Monitors, page 97

REPORT: CODE QUALITY TO TAKE A HIT

But many CIOs defend integrity of software

BY THOMAS HOFFMAN

As if the year 2000 problem won't be enough of a Pandora's box, here's another one for IT organizations. Software developed by user companies next year could be buggier than ever.

According to soon-to-be-released research from Stamford, Conn.-based Meta Group Inc., more than half the world's biggest companies have disbanded their in-house software quality assurance departments as they have pulled specialists onto their Y2K projects. The trickle-down effect, according to Meta Group, is that few of these companies will redeploy their quality teams, so application development error rates will increase.

MERRILL LYNCH'S JOHN MCKINLEY disagrees with Meta Group findings

Meta Group's software quality assurance research, which is drawn from its "Worldwide IT Trends and Benchmark Report," is based on survey responses from information technology executives at 318 of the world's 2,000

Code Quality, page 97

MERGER SPURS IT COST, JOB CUTS

ConEd/Northeast see pressure to cut rates

BY JULIA KING

Consolidated Edison's $3.3 billion merger with Northeast Utilities is bound to trigger sharp cost-cutting plus employee layoffs within the two companies' IT groups, analysts said last week.

"The merger means an immediate redundancy in the IT infrastructure, plus deregulation means tremendous pres-

Merger, page 97

CAN ACQUISITION STAY HEALTHY?

Aetna/Prudential face data challenges

BY THOMAS HOFFMAN

Aetna Inc.'s top IT executive said his company is set to absorb its third major health insurance acquisition in three years with the takeover of Prudential HealthCare.

But Wall Street analysts and health care consultants warned that despite its merger and acquisition experience, the

Aetna, page 16

NEWSPAPER

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*Publisher's own data as of 5 31 99

SUMMER SCHOOL FOR EXECS

Forget the beach, barbecue or RV. Summer is the time to fine-tune your leadership skills. We found some programs worthy of your consideration. By Jill Vitiello

AFTER THREE CONSECUTIVE WEEKS in the executive development program at Northwestern University's Kellogg Graduate School of Management in Evanston, Ill., Jim Stockdale says he's convinced he can work with just about anyone.

His class included approximately 60 people from as many as 30 countries. Because the participants rotated through study groups, they all got a chance to work with one another.

"It was like a three-week boot camp," he says with a laugh. "All of us are used to putting in long days at work, but we were in a state of shock to be in 'school' for 12 hours a day." Stockdale, who is program manager at General Dynamics Advanced Technology Systems Inc. in Whippany, N.J., leads a group that builds wireless networks for the military.

Executive education is offered year-round, but many executives find that summer is the best time to break away for extended programs. Far from having a remedial connotation, executive "summer school" is seen as a perquisite for high-potential managers.

Last summer, Kaz Imose, general manager at Teijin Ltd. in Osaka, Japan, completed a six-week stint at the University of Virginia's Darden Graduate School of Business Administration in Charlottesville., Va. The program features a full academic load, plus a trip to Washington to meet with government officials, a visit to nearby Monticello for a private tour, health and fitness screenings and counseling.

The experience gave Imose "the international experience and global perspective" he needed to advance his career, he says. "I think that almost all Japanese executives still have some anxiety about joining an English-speaking program at an established university such as Darden," says Imose. "My advice is to relax."

And relax they can. At Darden, participants can invite spouses or partners to join them in the final week of the program, which includes social and leisure activities. Darden even welcomes participants' children in the sixth week and provides special programming for them, too.

"When people get to a certain stage of their careers

SUMMER SAMPLERS

THE WHARTON SCHOOL
University of Pennsylvania, Philadelphia
www.wharton.upenn.edu/executives.html

■ The Wharton School's Advanced Management Program, which is offered June 3 to July 6, is a five-week course for senior executives. Participants tend to have 17 to 25 years of work experience and are generally between 40 and 50 years old.

Classes are held in the Steinberg Conference Center, which is also where attendees are housed and fed during their stay.

Tuition covers lodging, meals and materials and includes a partners program for the final two days, which "facilitates re-entry to home and work by creating a shared frame of reference – and experience for participants and their partners."

A special English Language Program helps international participants cope with an all-English learning environment. The cost is $36,000.

CARNEGIE MELLON UNIVERSITY
Pittsburgh
www.cmu.edu/home/education/education_executive.html

■ *The Wall Street Journal* ranked Carnegie Mellon University's Program for Executives the world's No. 1 general management program. Participants must be upper-level managers with 12 to 25 years of work experience.

The course, which isn't IT-specific, is designed to broaden skills in general management and leadership. It will be offered one week per month from April to June.

Classes are held at the Graduate School of Industrial Administration Center for Executive Education, which is located in the heart of the campus.

The cost is $18,500, which includes hotel and some meals.

THE ANDERSON SCHOOL
University of California, Los Angeles
www.anderson.ucla.edu/programs/execed

■ A fairly new entry, the University of California at Los Angeles' Strategic Leadership Institute (SLI) is a four-week program that focuses on "arming executives with the tools and frameworks to evaluate business opportunities and the skills to implement organizational change."

Participants have included senior-level executives and self-employed entrepreneurs. They are housed on campus in UCLA's newest conference facility, Sunset Village. SLI is being offered July 29 to Aug. 24.

The cost is $22,500, which includes tuition, books, materials, use of a computer, lodging, most meals and a Partners' Program.

HARVARD BUSINESS SCHOOL
Harvard University, Boston
www.exed.hbs.edu/programs

■ Harvard Business School's Advanced Management Program is an eight-week program, offered April 2 to May 31, in which participants work six days a week and are expected to put in 14-hour days.

The cost is $47,000, which includes lodging, meals, tuition and materials.

IT professionals may also be interested in the two-week course called Delivering Information Services, which, according to Harvard, "was created to give business leaders the knowledge, skills and strategies necessary to build and manage an information infrastructure for maximum advantage."

Offered from July 22 to Aug. 3, Delivering Information Services caters to leaders whose companies have "substantial information technology investments."

Living quarters are equipped with PCs and high-speed Internet connections. The cost is $11,000.

SLOAN SCHOOL OF MANAGEMENT
MIT, Cambridge, Mass.
http://mitsloan.mit.edu/execed/

■ The MIT Sloan School of Management Executive Education program offers specialized management courses during most months, however, two courses offered this summer might especially tempt IT professionals.

"Strategic Management in the Information Age: Beyond eCommerce" is a one-week program offered June 3 to 8. The course is designed for senior managers who are responsible for analyzing key IT trends in the global environment. It's a joint program of MIT Sloan and IESE, the International Graduate School of Management of the University of Navarra in Barcelona and Madrid. This course will be held in Barcelona, Spain. The cost is $8,000, not including transportation.

Executive Program in Corporate

SUZY PILGRIM WATERS

— say at 50 years of age, running IT or another large part of a company — one of the most important things they can do is give a lot more attention to their physical and mental health," says Brandt Allen, dean of executive education at Darden. "We help them find better balance in their lives."

MAKING THE GRADE

You can benefit from executive summer schools if you're already in senior management or if you've been tagged "high-potential" by your company.

Forget about using personal vacation time and paying for summer school out of your own pocket — most schools require company sponsorship so that you immediately put your new skills to use on the job. The programs cost thousands of dollars, run one to eight weeks and require participants to live, eat and study on campus.

"All of our programs have certain requirements which make the experience sabbatical-like," says Charles Breckling, director of executive education at Harvard University. "The company is required to pay for the program and to relieve the participant of work-related duties. If they are expected to put out fires and manage projects from afar, it distracts them from the complete immersion experience."

Although prominent business schools pride themselves on their rigorous executive education programs, there are alternatives. The Disney Institute at Walt Disney World in Orlando, Fla., provides a great way for midlevel IT managers to combine professional development with a family vacation. It offers programs in leadership, creativity and customer loyalty. Participants stay in bungalows or townhouses on Disney property, and amenities include a spa, fitness center tennis courts and an 18-hole golf course.

Programs include classroom lectures and behind-the-scenes tours that show participants how they can apply Disney "magic" to their own projects. The three-day programs allow some free time so participants and their families can enjoy the parks together. ◗

Vitiello is a freelance writer in East Brunswick, N.J.

Strategy is a one-week program offered June 10 to 15 for managers involved in developing corporate, business or functional strategies who are accustomed to taking leadership roles.

Held at the MIT Endicott House in Dedham, Mass., the cost is $7,000 for tuition, materials, lodging and meals.

KELLOGG GRADUATE SCHOOL OF MANAGEMENT

Northwestern University, Evanston, Ill.
www.kellogg.northwestern.edu/

■ Northwestern University's Kellogg Graduate School of Management is consistently cited as one of the nation's top business schools, and Kellogg's executive education program is similarly rigorous, well respected and popular.

Summer is when Kellogg holds its two widely acclaimed management development programs. Participants attend classes, take meals and lodge in the Allen Center on campus.

The Executive Development Program (EDP) is a three-week course offered three times this year: May 6 to 25, July 14 to Aug. 2 and Sept. 30 to Oct. 19. The EDP prepares middle management executives for effective leadership across functional areas. The cost is $16,900.

The Advanced Executive Program is a four-week course offered June 17 to July 13. It's designed specifically to prepare senior functional managers to take on general management and strategic roles. The cost is $23,000.

DARDEN GRADUATE SCHOOL OF BUSINESS ADMINISTRATION

University of Virginia, Charlottesville
www.darden.virginia.edu/execed

■ The University of Virginia's Darden Graduate School of Business Administration offers two general management programs that consistently attract fast-track IT professionals. Students stay at Darden Grounds on the UVA campus.

Historical, cultural and outdoor opportunities abound in Thomas Jefferson country, and students are formally introduced to Washington officials – a highlight for international participants.

Managing Critical Resources is a two-week program offered July 16 to 27 for functional managers who are preparing to take on general management responsibilities. The cost is $11,500.

The Executive Program is a six-week program offered June 4 to July 13 for "people ready and eager to make a breakthrough in their professional and personal lives." The cost is $32,100.

STANFORD BUSINESS SCHOOL

Stanford University, Stanford, Calif.
www.gsb.stanford.edu/exed

■ Stanford Business School's Executive Education program offers general management and specialized programs year-round.

Stanford Executive Program is the school's flagship program, first offered in 1952. It's intended for senior-level executives with companywide or national responsibilities and at least 15 years of general management experience or for those at the top level of a functional unit. The six-and-a-half-week program is held on Stanford's campus in Silicon Valley from June 24 to Aug. 7. The cost is $36,000.

The Executive Program for Growing Companies is a two-week program designed for leaders of firms with fewer than 1,000 employees. It's offered July 22 to Aug. 3. The cost is $13,000.

The Stanford-National University of Singapore Executive Program is aimed at executives doing business in the Pacific Rim. It will be held in Singapore from July 29 to Aug. 17. The cost is $12,000.

DISNEY INSTITUTE

Lake Buena Vista, Fla.
www.disneyinstitute.com

■ The Disney Institute's Leadership Excellence program will be offered eight times this year, including May 6 to 9, May 20 to 23 and June 10 to 13. It's geared to new leaders who want to define a leadership style and for experienced managers who want to improve their leadership effectiveness. The cost is $2,995 and includes lodging, meals during the program, course materials and behind-the-scenes tours.

YALE SCHOOL OF MANAGEMENT

Yale University, New Haven, Conn.
http://mba.yale.edu/mba_admissions/executive/workshops.htm

■ If you can't make it to summer school, try the Yale School of Management's Leadership and Team Effectiveness program, a five-day workshop to help senior managers increase their leadership potential. The course will be offered twice this year: May 7 to 11 and Oct. 15 to 19.

Since 1980, the program has been led by professor Victor H. Vroom, a widely recognized leadership expert. Students stay in a nearby hotel within walking distance of the Yale campus. The cost is $5,900.

Reverse Mergers

DEFINITION

A **reverse merger** is a faster, easier and cheaper alternative to going public than filing an IPO. How it works: A private company buys the empty shell of a dormant public company, creating a new company whose stock can be traded on public markets.

BY SHARON MCDONNELL

IT SOUNDS LIKE a match made in heaven. A small, private firm that's hungry for capital and eager to go public hooks up with a public company with no assets or operations to speak of but desperate to create some value for unhappy shareholders.

If the private firm acquires the shell of the defunct public company, voilà — it can become a public company almost overnight.

It's much cheaper, easier and faster (two to four months, compared with about a year) than issuing a prospectus and landing an underwriter to file an IPO, which involves registration statements that require detailed disclosures.

That's how Ted Turner launched Atlanta-based Turner Broadcasting System Inc. in the mid-1970s. During the past few years, reverse mergers, popular in the early 1980s and mid-1990s, have enjoyed a comeback, particularly among technology and Internet firms that were eager to cash in on the IPO bonanza before the stock market began heading south last year.

Happily ever after? Not necessarily. The shell company that's acquired may be no bargain if it's saddled with debts, liens or lawsuits. Shareholders may sell their shares to cash in soon after the deal is completed, thereby sinking the stock. Creditors may also appear, demanding payment.

An unsavory reputation also haunts reverse mergers. Shady stock promoters often hype the stocks, then sell them off in what are referred to as "pump-and-dump" schemes.

Because of the many fraud cases, the Securities and Exchange Commission (SEC), which takes a dim view of reverse mergers as a backdoor route to going public, toughened its policies on them in the mid-1990s and again last year. Many financial experts also say they tend to suspect the motives of firms involved in reverse mergers.

"I certainly always looked with a jaundiced eye at them, since they didn't undergo the scrutiny other companies did that went public in the usual way. And the past history has not been good," says Charles Hill, director of research at First Call/Thomson Financial, a financial research firm in Boston. "A perfectly legitimate company may feel it's a good way to do it, but it's a tougher row to hoe in getting attention from reputable analysts."

> I certainly always looked with a jaundiced eye at [reverse mergers], since they didn't undergo the scrutiny other companies did that went public in the usual way. And the past history has not been good.
>
> CHARLES HILL, DIRECTOR OF RESEARCH, FIRST CALL/THOMSON FINANCIAL

Reverse mergers have certainly produced some odd couples. For example, Piranha Inc., a Richardson, Texas-based maker of digital compression products for streaming video and prepress publishing, merged with a public company, Chicago-based comic book and games retailer Classics International Entertainment Inc., in 1999.

Piranha managed to acquire three small firms after the reverse merger with Classics International, which stopped operating in the 1990s and whose stock reached its nadir at a half-cent per share in early 1998 on the "pink sheets." The lowest regulatory rung of all stocks, pink sheets refer to stocks that aren't listed on any exchange or Nasdaq, although quotes are provided to traders.

Classics Chairman Richard Berger, scouting for opportunities, met Ed Sample, Piranha's CEO, through colleagues. A deal was struck, and Berger is now Piranha's chief financial officer.

"Our technology is now fully developed in two of the three areas we do business in and selling, and we're in business just 15 months," says Berger, who notes that Piranha's stock peaked at $38 per share last March, though it has since plummeted to $1.65 per share as of last week due to market conditions.

Indeed, private firms that think going public through a reverse merger is an automatic way to raise money often find out the hard way that it's not that simple.

"A shell merger is not a way to raise money. It's a way to create a capital tool effectively with the stock you acquire" that allows companies to do such things as create liquidity for investors that want to profit from their investment and offer stock options to employees, says Eric Stevenson, president of Axiom Capital Corp., a Phoenix-based consulting firm that assists companies with reverse mergers.

"Going public is like getting married — a very serious commitment. You have to start reporting regularly, disclosing information about your firm. You're ready to develop your firm, and you better not go into it alone," Stevenson adds.

Some of the pros for conducting reverse mergers include tax benefits and the added value they bring to a company. While IPOs can be withdrawn by underwriters because an industry is getting hammered in the stock market, a reverse merger simply needs two willing and able partners.

Another perk with reverse mergers: Many shells have tax loss carry-forwards, which means future income may be sheltered from income taxes. As for added value, "if an entrepreneur has something viable, he can gain about 30% in market value by [going] public, compared to 10% by [staying] private," says Stevenson.

Shell Shopping

Reverse mergers typically cost $150,000 to $200,000 to execute, not counting the equity given up to the shell's principals. Last year, however, some shells with zero balance sheets listed on the OTC Bulletin Board (called the Nasdaq Stock Market Inc.'s "poor stepchild") sold for at least $500,000, Stevenson says.

"Three-quarters of reverse mergers will be traded only on the Bulletin Board or the pink sheets, since they can't qualify for the Nasdaq SmallCap," Stevenson adds. Nasdaq SmallCap requirements include having at least $4 million in assets.

Private firms can go shell hunting by scanning ads touting shells for sale in *The Wall Street Journal* and other business journals and Web sites. But experts recommend referrals from attorneys with securities practices, accountants or financial consultants who can share helpful information about the shells as the best way to go.

While a company formed by a reverse merger may go public nearly overnight, don't expect its value to skyrocket as quickly.

"You can't fool Wall Street," Stevenson cautions. "You can't take a company that has poor financial performance and represent it as wonderful just because it's now public." ◗

McDonnell is a freelance writer in Brooklyn, N.Y. Contact her at sharonfmc@compuserve.com.

Reverse Merger To-Do List

1. **Find a public shell** by asking securities attorneys, accountants or financing consultants for referrals.
2. **Do your homework** more carefully than for an average merger. Hunt for debts, lawsuits and liens lurking behind the shell. Use a shareholder locater service to identify shareholders and make sure shares aren't concentrated in the hands of a few.
3. Realize you have to **give up some equity** to the remaining principals of the public company.
4. **Clean the shell.** Settle existing claims against it and start filing regular reports with the SEC.
5. **Create a strategy** to raise money and grow your company. When you buy a shell, you're only halfway there.
6. **Counteract the tarnished image** of reverse mergers. Hire a national accounting firm or a well-regarded law firm to inspire confidence in investors, traders and regulators alike.

■ *Are there business terms you would like to learn about in QuickStudy? Please send your ideas to quickstudy@computerworld.com.*

ON MARCH 12, 2001, two men arrived here from a parallel universe.

Who are they? What do they hope to find?

The men were chosen for their abilities...highly specialized abilities which may prove the salvation of the parallel universe. For their universe is mired in the past...in proprietary systems... in clashing platforms...in stale business practices.

The two men are programmers. Coders. Geeks.

They are the codernauts.

And they are looking for better software.

IT'S A DIFFERENT
YOU NEED A DIFFERENT

Log Entry, Day 1: Arrival. We feel the immense responsibility of our mission: to find superior software that will help our universe transform its clashing technology systems into vital e-economies. Hotel has mints on pillow.

Log Entry, Day 2: Hail, open world! We have long sought a place where Linux®, UNIX®, Windows®, OS/390® – indeed, all major operating systems – could work as one. We have found it! It is **WebSphere®**, an e-business software platform based on open standards, such as Java™ and XML. In this atmosphere, any business can become an e-business. This makes the Crab Nebula look like small potatoes.

Log Entry, Day 4: We have detected a multiplatform database somewhere in this building. Our sensors suggest that it can access, manage and analyze all forms of information – even audio and video! We must find this software (known as **DB2®**), which works across UNIX, Linux, Windows and all major platforms, throughout the enterprise and beyond. The alternative: data rot.

e business software

KIND *OF* WORLD.
KIND *OF* SOFTWARE.

Log Entry, Day 6: **People here have the ability to leverage intellectual capital!** They use "knowledge management" software to catalog employee expertise. Other employees can then locate and capitalize on valuable existing knowledge, rather than laboriously recreating it. This **Lotus®** software promotes collaboration far more effectively than our "Finger of Knowledge" technique.

Log Entry, Day 7:
Infrastructure: From the roads and bridges of this society to its hidden software, it is vital. Here, the technology infrastructure is managed by **Tivoli®** software. If we'd had such integrated yet flexible technology management software in the parallel universe, the whole Tiborg-7 incident might have been avoided.

Log Entry, Day 8: **We have encountered a treasure trove of portable information!** In this universe, people can access pertinent corporate data from any location in real time – on a PDA or cell phone! The software facilitator is called **DB2** Everyplace.™ We have appropriated same and signed up for 257.1 million user licenses.

Log Entry, Day 10:
Security is just as important here as in the parallel universe. But here, security goes by the name **Tivoli**. This Tivoli software protects networks – indeed, entire e-businesses – from outside hackers as well as unauthorized personnel. This one goes in the space pack.

Log Entry, Day 11: **This knowledge worker is learning about a new product.** His cranial surface reveals that this information has been simultaneously dispersed to other sales reps, business partners, the marketing department and customer service – team members all, marching to market in a coordinated phalanx. This is called e-learning. With **Lotus** software for e-learning, our universe will have a decided competitive advantage.

Log Entry, Day 14:
Today we committed ourselves to research. In so doing, we discovered that **WebSphere** is chosen by more CIOs than any other e-business software platform. Why? Its ability to leverage legacy systems? To work across 35 platforms? Is it the tools, the ease of deployment, the e-commerce capabilities? To the men and women CIOs of this realm, we say to you: we do not take your word lightly. We will find out.

IBM

WebSphere, Lotus, Tivoli, DB2 - these were names the codernauts would remember. This was powerful e-business software - and it was all linked by one entity: IBM.

But there was still much to learn. E-marketplaces, supply chains, Web services - in this universe, software was transforming business. Data was gaining a new life online.

Download the codernauts!
Go to ibm.com/software/visitors

Watch as the codernauts encounter multiple corporate types in their quest to save the parallel universe from the dreaded threat of incompatible legacy systems and unfriendly source code.

The codernauts decided to contact more alpha geeks. (One had pointed them to a Web site called developerWorks™, which had free Java and XML tools and code; critical, since the future of the parallel universe relied on open standards.)

They also meant to explore every chat room, poke into every software lab, and meet every Business Partner (the friends of IBM were many and far-flung), until they had uncovered all of this world's best software.

THE MISSION CONTINUES.

IBM

e business software

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JOE AUER/DRIVING THE DEAL

Two Essential Parts For Service Contracts

IF YOU'RE DRAFTING A CONTRACT for a vital ongoing service such as outsourcing or telecommunications, business continuation and transition clauses should be essential parts of the deal.

The business continuation clause gives you the right to continue receiving services after the contract expires. The transition clause establishes criteria for a smooth, well-organized, nonantagonistic end to the contractual relationship.

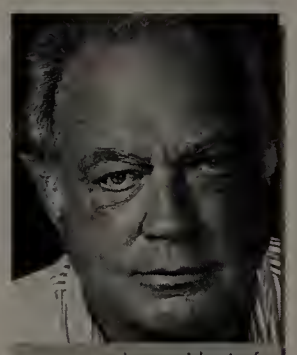
Imagine how vulnerable a customer can be if it's totally dependent on an incumbent vendor and then decides to switch vendors: It has no negotiating power, no endgame protection and no time. The incumbent vendor could decide to maximize its profits on the way out by increasing postcontract service changes and holding vital components hostage. Do we need anymore nightmare scenarios as an incentive to insist on relationship continuation and transition clauses?

The business continuation clause is especially valuable to have when you're in a dependent relationship with any outside party. The clause is a pressur-release valve to conclude new contract negotiations with the incumbent vendor, gear up internally and take on the service yourself or transfer it to another vendor. Regardless of the direction you take, you won't have to scramble to get an agreement in place just because the agreement with the original vendor is expiring. Time pressure has been removed, and your negotiation leverage has been increased.

A clearly defined business continuation clause can allow you to continue receiving services at previously contracted rates and at agreed service levels. Make the clause a contract extension or renewal clause so you can avoid a price increase or reduction in service levels. Most vendors will agree to business continuation, but a vendor's first offer will most likely be at the "standard rates" in effect at the time the extension begins. Ensure that you preserve the hard-won pricing structure and service levels previously negotiated with contract language such as the following:

Contract continuation: *Upon expiration of this agreement, provided the supplier makes such service generally available to other commercial customers, the customer may elect to extend the terms and conditions of this agreement for not more than two additional consecutive six-month terms without liability for conversion fees. The customer agrees to pay supplier rates, charges and fees as prescribed in the pricing section of this agreement and to give the supplier 30 days' notice of such election to continue services.*

As is always the case in negotiating a good contract, clear and specific language is the key. It should leave no doubt that you have the unilateral right to continue the contract for a specified period. Some suppliers may attempt to base business continuation on mutual agreement rather than make it an absolute customer right. Don't do it! If it's not your unilateral right, business continuation can be in jeopardy at a time when it's needed most — and you could be subjected to highway robbery, courtesy of your vendor.



JOE AUER is president of International Computer Negotiations Inc. (*www.dobetterdeals.com*), a Winter Park, Fla., consultancy that educates users on high-tech procurement. ICN sponsors CAUCUS: The Association of High-Tech Acquisition Professionals. Contact him at **joea@dobetterdeals.com.**

The second essential is the transition clause. Although the transition and business continuation clauses can work together, they should be viewed as separate entities, each with its own purpose. A transition provision gives you the right to an orderly transition of service, while the business continuation clause gives you breathing room and some negotiating power.

Transition cooperation: *The supplier agrees that upon termination of this agreement for any reason, it shall provide sufficient efforts and cooperation to ensure an orderly and efficient transition of services to the customer or another supplier. The supplier shall provide full disclosure to the customer of the equipment, software and third-party supplier about the services required to perform services for the customer. The supplier shall transfer licenses or assign agreements for any software or third-party services used to provide the services to the customer or to another supplier.*

A complete transition clause would normally continue beyond that one paragrah, covering many more details, but the sample provisions capture its essence. Detailing both parties' rights and obligations beyond this paragraph is well worth the effort.

The continuation and transition clauses should reduce the likelihood of the nightmare of losing needed services. So, sweet dreams!

BRIEFS

German Standards Limit Immigration

Last year, in an an effort to keep pace with the U.S. and other countries that are opening their doors to foreign IT workers, Germany's main IT industry association recommended radical changes in Germany's immigration policy aimed at attracting as many as 50,000 highly skilled IT workers from other countries. This year, officials of the 1,250-member Bitkom reported that they were satisfied with the program, even though only 5,800 foreign applicants have entered the country under the special work permit program that was put in place in August, five months after Bitkom's recommendation. High standards, including the need to speak both German and English, were among the factors that limited those numbers, according to Bitkom officials.

Global One Opens Host Center in Brazil

Global One, a global provider of telecommunications services to large corporations, announced last week the opening of its first Internet hosting center in Latin America. The center will be located in Sao Paulo, Brazil, and will host electronic messaging and groupware systems and Web sites. It will also provide Internet access, intranet and extranet services, and security services, the company said. The center cost $8 million to build. Reston, Va.-based Global One already has four similar hosting centers, in Singapore, Tokyo, Hong Kong and Rennes, France, and plans to open six more by the middle of this year.

Kozmo.com Hires CFO

Online delivery service and retailer Kozmo.com Inc. has hired former BMG Entertainment executive Tom McIntyre as its new chief financial officer, replacing Gerry Burdo, who was promoted to CEO and president last July. McIntyre, who was CFO at New York-based BMG, joins Kozmo.com to oversee its financial, legal and human resources units. New York-based Kozmo.com serves nine cities with delivery services. It is also beginning a catalog shopping business that will offer music CDs, gifts, housewares and other items to customers via the Internet or telephone.

Worldspan Licenses Search Redesign

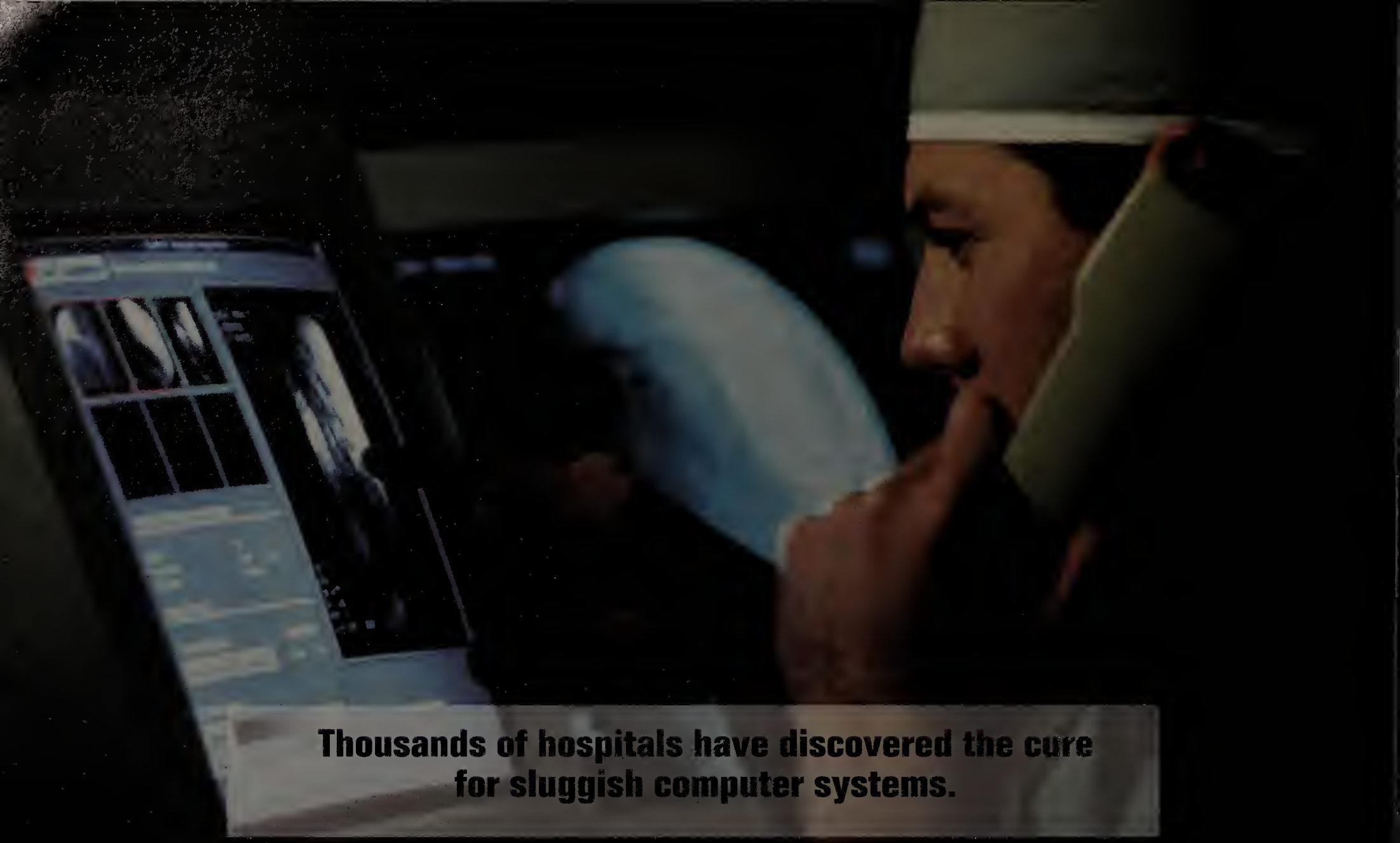
Travel distribution giant Worldspan LP has signed a three-year software licensing agreement with Boston-based WebMap Technologies Inc. to reorganize the Internet search capabilities of Worldspan's 18,000 travel agency users. Atlanta-based Worldspan said search screens organized by content rather than lists will let its users create more varied travel packages. Plans for the new product, to be called TravelMap, are for it to merge real-time travel booking capabilities on a single screen with icons for leisure and touring information.

Rensselaer Polytech Receives Record Gift

Rensselaer Polytechnic Institute (RPI) in Troy, N.Y., this month received an anonymous, unrestricted gift of $360 million, the largest ever to any U.S. university, according to RPI President Shirley Ann Jackson. The gift will be used to advance RPI's work in IT and biotechnology, she said. In December, the same donor made a $130 million grant to the institute.

Europe Pushes 3G Mobile Service Laws

The European Commission last week proposed new laws on electronic communications and radio spectrum policy to level the playing field for upcoming third-generation (3G) mobile service providers in the 15-member European Union. Eleven EU members so far have awarded licenses to operate the 3G mobile phones, which will start to replace the second generation of Global System for Mobile Communications phones in the next few months. The U.S. government has recently begun the process to select and auction spectrum for 3G in conformity with international standards.



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* InterSystems' database technology is used by Ameritrade, Hitachi, Johns Hopkins, Kennedy Space Center, Paine Webber, Pepsi Cola, Prudential Insurance Co., Shell, U.S. Army, World Bank and other successful enterprises.

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TECHNOLOGY

SECURITY JOURNAL

The Secure Sockets Layer protocol may protect the communications stream between a Web client and server, but it also takes its toll on Web server performance. It's up to security manager Mathias Thurman to weigh the options. ▸ 58

FUTURE WATCH

Some visionary inventors claim that the future of shipping is down the tubes. They're designing pipelines to move cargo in capsules via pneumatic, hydraulic or even electromagnetic power. One engineer says his system will move freight at speeds faster than 2,000 miles per hour. ▸ 59

REMOTE PROTECTION

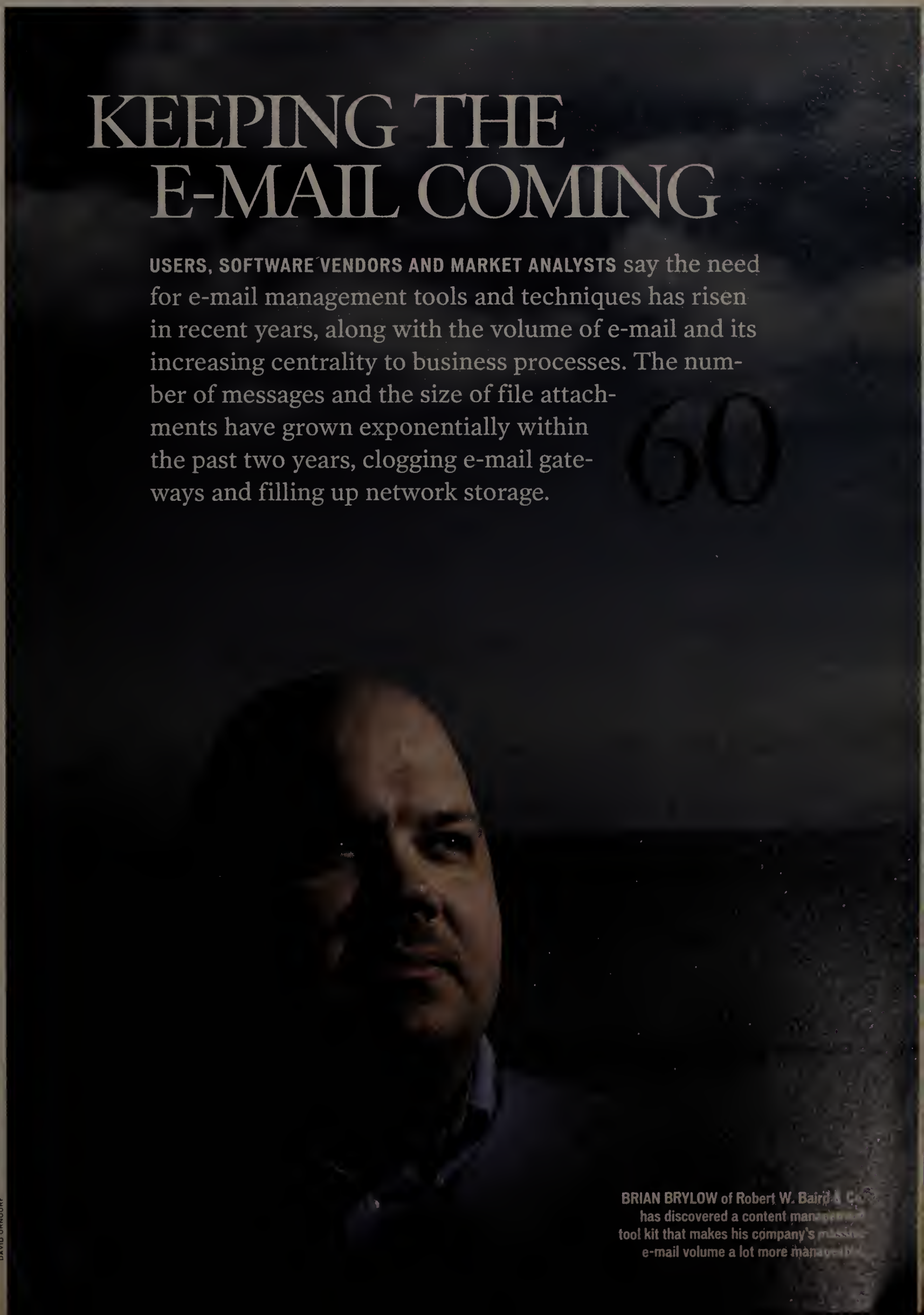
Just one employee's unprotected computer can allow stealth attacks into the corporate network. New personal firewalls include management features that can help IT managers plug these holes, but the products are still evolving. Are they worth the investment today? ▸ 64

EMERGING COMPANIES

BTrade.com's software helps companies set up secure exchanges, translating between document types and providing client software that lets small suppliers with dial-up connections work off-line. ▸ 66

KEEPING THE E-MAIL COMING

USERS, SOFTWARE VENDORS AND MARKET ANALYSTS say the need for e-mail management tools and techniques has risen in recent years, along with the volume of e-mail and its increasing centrality to business processes. The number of messages and the size of file attachments have grown exponentially within the past two years, clogging e-mail gateways and filling up network storage.



BRIAN BRYLOW of Robert W. Baird & Co. has discovered a content management tool kit that makes his company's massive e-mail volume a lot more manageable.

DAVID ORNDORF

BRIEFS

CA Launches Suite for Database Modeling

Computer Associates International Inc. in Islandia, N.Y., recently released ERwin Modeling Suite 4.0, which includes several database modeling tools from Platinum Technologies Inc. CA bought Platinum in 1999. The tools include ERwin for database modeling, Paradigm Plus for component modeling, BPwin for business process modeling and ERwin Examiner for data model integrity testing.

Airborne Rolls Out Shipping Application

Seattle-based Airborne Express has released Corporate Exchange, a Web-based desktop shipping application. Corporate Exchange users can ship packages to any destination within the U.S.; send e-mail notifications to recipients; print air bills; track, view, edit and void shipments; and print or download shipping reports, said company officials.

Amdahl Launches Services Organization

Sunnyvale, Calif.-based Amdahl Corp. last week announced a new services organization called Infracare that will provide a range of enterprise consulting and management services spanning infrastructure deployment, operational support, project life-cycle management, e-business and legacy system support. Amdahl will offer Infracare services to customers in North America; its parent company, Fujistu Ltd. in Tokyo, will offer the services in Japan; and subsidiary ICL will offer them in Europe.

Linux2order Offers 'Open' Downloads

Provo, Utah-based Linux2order has assembled a collection of more than 10,000 Linux and open-source applications available for download at *www.linux2order.com*. The searchable Web site also includes reviews and recommendations. Downloads are free, but users can sign up for faster access at fees ranging from $2.95 to $12.95 per month.

Where Humans and Machines Meet

ACM1 conference explores how people and computers transform each other

BY TOMMY PETERSON

RAY KURZWEIL HAS some advice for you: Take care of yourself for the next 10 years, because if you're still around in 2011, you'll have a good shot at immortality. So says the man who brought the world the first text-to-speech synthesizer, the first flatbed scanner and the first music synthesizer capable of reproducing the sounds of a grand piano and other orchestral instruments.

And though Kurzweil's pronouncement was perhaps the most intriguing made at the Association for Computing Machinery's ACM1: Beyond Cyberspace conference in San Jose earlier this month, he had plenty of competition.

The ACM hosts a gathering open to nonmembers just once every four years, and judging by this one, the 54-year-old "first society in computing" is determined to present itself as anything but staid.

The conference drew national news coverage and attention with a lineup of 15 provocative speakers and an exposition of head-turning technology fresh from university and corporate research labs.

ACM1 was an exploration of how IT is changing the way we live and gather data. A consistent subtext was the interface between humans and machines, and how each is transformed by the interaction.

Moderator Robert Metcalfe, Ethernet inventor and 3Com Corp. founder, kicked off the conference by noting that 8 billion microprocessors will be produced this year but that just 2% of them will go into PCs. Some of the rest will go to the supercomputers that are powering scientific research. But most will end up as part of the ubiquitous, pervasive fabric of computing that's being woven around and through our lives via a wide range of devices, some of which we don't even recognize as computers.

"There's been 40 years of people serving machines, and now it's time to make the machines humancentric so they'll serve people," said Michael Dertouzos, director of the MIT Laboratory for Computer Science, referring to the impending world of pervasive computing. Speech as a means to access and operate computers is crucial to making the machine/human interaction natural, he said, as is the need for computers to "ascend the gentle slope of meaning" instead of merely aggregating and structuring information.

Electronic environments infused with ambient intelligence will make them personalized, adaptive and anticipatory of human needs, said Martin F.H. Schuurmans, CEO of the Philips Centre for Industrial Technology. Schuurmans is one of Dertouzos' corporate partners in MIT's Project Oxygen to promote humancentric computing.

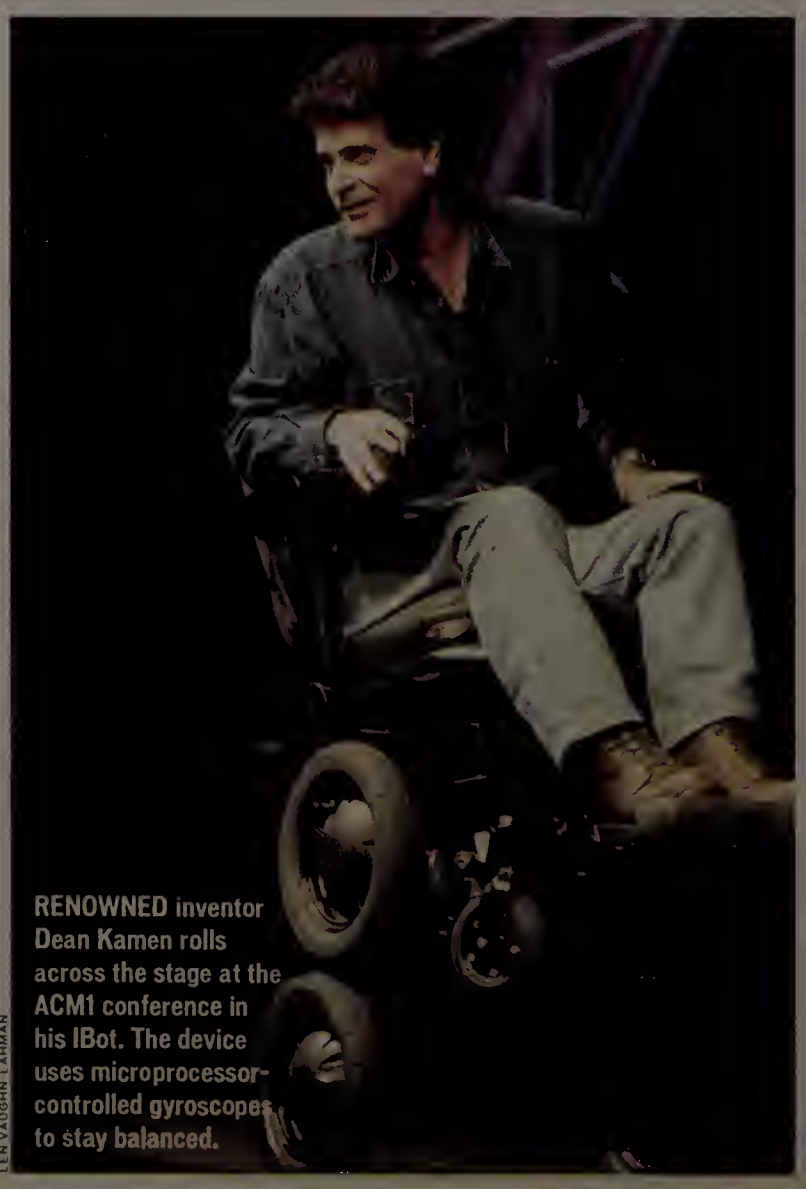
Although the processing power of machines may be growing exponentially, the intellectual capacity of the humans operating them isn't, pointed out William Buxton, chief scientist at Alias/Wavefront in Toronto. He said the most important decisions about computer design are those about I/O devices, since that's where humans meet machines.

Unlike Buxton, Kurzweil takes comfort in all the exponentially rising tides of technology and data. He noted that the lengthening of the human life span has been accelerating as well. We currently add 135 days per year to the length of time we can expect to live but will be adding a year in 10 years, making immortality at least a statistical possibility. Kurzweil also envisions nanorobots that will navigate our capillaries and download information from our brain cells to be copied later on to a "more stable medium."

For researchers like Neil deGrasse Tyson, director of the Hayden Planetarium and Rose Center for Earth and Space in New York, the burgeoning power of IT transforms their work. "I'll take all the Moore's Law you've got," Tyson told the crowd. The astrophysicist noted that due mostly to IT, as much research in his field had been published in the past 15 years as had reached print in all the years before that.

Inventor Dean Kamen, whose mysterious Ginger project has been getting a lot of attention, produced the most compelling images at ACM. On the last day, he rolled from the McEnery Convention Center to the conference stage in his IBot. The device runs on two wheels with microprocessor-controlled gyroscopes keeping it in balance, even when the IBot climbed the steps to the stage. Metcalfe greeted Kamen and then threw a 25-pound bag of sand at him. The IBot barely swayed. Kamen heaved it back at Metcalfe, who staggered under the weight.

Kamen spoke passionately about the need to raise the visibility of science and engineering among young people. "The modern world is in a race between technological competence and catastrophe," he said, and then descended the stairs, trailed by fans and photographers like a rock star.



LEN VAUGHN LAHMAN

RENOWNED inventor Dean Kamen rolls across the stage at the ACM1 conference in his IBot. The device uses microprocessor-controlled gyroscopes to stay balanced.

Poll on the Future

Attendees at the ACM1 conference were asked about their views on the future of technology and how humans will interact with it. A sampling of those views follows.

By 2006, Moore's Law will no longer be in effect.

16% expect to be immortal due to technology; 23% said their grandchildren will be immortal.

Just **53%** said ambient, ubiquitous, pervasive computing will improve our quality of life.

By 2015, computers will be smarter than humans.

66% said computers will be self-replicating by 2047.

NetIQ Adds Exchange, Win 2k Tools to Migration Suite

BY SAMI LAIS

NetIQ Corp. last week added two new tools to its Windows 2000 back-office application migration and management suite to help users plan and execute migrations to Microsoft Exchange and Windows 2000 Active Directory.

Exchange Migrator helps users move Exchange objects, such as distribution lists, mailboxes and public folders, between sites and organizations. Migration Assessor helps managers prepare for migration to Active Directory by generating reports on existing directory infrastructure, file systems, printers and share permissions.

Other vendors, such as Aelita Software Corp. in Powell, Ohio, BindView Corp. in Houston and FastLane Technologies Inc. in Irvine, Calif., make similar tools, but none enjoy as close a partnership with Microsoft Corp. as San Jose-based NetIQ.

Microsoft last year licensed Operations Manager Windows performance management software from NetIQ and is closely integrating it in Windows 2000 and Windows 2000 services such as Active Directory.

"The Operations Manager agreement doesn't have a direct impact on migration tools," said Patrick Dryden, an analyst at Nashua, N.H.-based Illuminata Inc.

"But a migration is complex, and you have to plan and model your networks and think about what management tools you're going to need for maintenance during and after the migration," he said. "Plus, scalability is an issue you have to look at."

Extensive Training Involved

Support is another consideration, said Rob Enderle, an analyst at Giga Information Group Inc. in Cambridge, Mass.

Because of the agreement, NetIQ tool training for Microsoft's Windows 2000 support staff will likely be extensive, he said.

"That increases the likelihood that your [Microsoft] premier support folks can help and not tell you that you'll have to go to the other company. Then you talk with them, and they say, 'No, it's Exchange,' and send you back," Enderle said. "You can really feel like a ping-pong ball after the fourth or fifth call."

But even with NetIQ's new tools, managers will still end up with multiple migration packages, Enderle warned.

"There's no one tool that works across the gamut of desktop and back-office applications," Enderle said. "Nobody seems to get it yet that large enterprises need one that does both."

Exchange Migrator 1.0 costs $600 per 100-user pack. Migration Assessor costs $300 per 100-user pack. Both products are shipping now.

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When Good Security Leads to Poor Performance

A Secure Sockets Layer implementation improves security but bogs down server response times

BY MATHIAS THURMAN

IT'S FUNNY HOW even the mere whisper of the word *security* causes the masses to flock to the security manager's cube. I often get pulled into situations, meetings or projects just because security, in one form or another, is mentioned. I probably spend about six hours per week reviewing project plans or sitting in meetings in which I have no reason to take part and to which I usually make no contributions.

SECURITY MANAGER'S JOURNAL

So I wasn't surprised when I was recently invited to a brainstorming session on performance issues. I've also been volunteered to be part of the "performance improvement task team." You might ask: What does performance have to do with security? Well, quite a bit in this case. Our application is Web-based. In order to provide transport-level security, we enable Secure Sockets Layer (SSL) for our customers, to give them — and ourselves — the added benefit of encryption.

For those who don't know, SSL is best identified by the little gold lock symbol that appears when you go to a Web site that has "https" instead of "http" in its Web address. I won't go into the details of the SSL protocol, but it's important to know that there are two major aspects of SSL that affect performance.

Do the Math

The first and more taxing aspect is the initial key-generation process. Every time a browser makes an https request for a page, the server that the user is connecting to generates a digital key, which is unseen by the user. Generating this key is a computationally intensive operation.

These mathematical computations take up CPU cycles and are the major cause of performance degradation in SSL-enabled Web sites. Now, depending on how the Web site has been designed, the client browser might have to connect to the Web server many times just to display a single page. Each time the browser makes that additional https request, the server must generate a new encryption key, further degrading performance.

The second major issue regarding SSL is bulk encryption. This is the technology responsible for encrypting the data stream in transit between the client Web browser and the remote Web server. The key generation, which I previously mentioned, only authenticates the session. It doesn't encrypt the data that goes back and forth over the public Internet.

Most Web servers use the RC4 algorithm for bulk encryption. This algorithm is the other aspect of SSL that can affect performance. However, RC4 bulk encryption isn't what's causing the problem on our servers. It's the initial key generation.

Unfortunately, our Web-based application is complex: A client Web browser must contact our server up to 40 times just to display one page. And for every one of those 40 connections, our system must generate a new encryption key. Multiply that by hundreds of customers accessing our Web-based application, and you can imagine the problem we're facing.

During normal, nonencrypted sessions, it takes about 5 seconds to load a customer's customized home page for our application. That's not so bad, considering all the data that's specific to our customer is right on the main page.

But once the SSL encryption is enabled, that 5-second wait jumps to almost 40 seconds. And that's just the average time. Add to that latency issues related to dial-up connections and the wait could be prolonged to as much as 90 seconds. That's unacceptable. Heck, when I'm surfing the Web, if a page doesn't load in less than 5 seconds, I hit the Stop button and try another link.

There are two major issues related to the encryption key generation process each time the browser connects to our Web server. The first issue is the processing needed to generate the initial key. The second issue is the generation of the subsequent keys for every https connection to our site.

Since it's the processor utilization that's in question, I thought it would be nice to be able to off-load the computationally intensive stuff to another server or processor.

Well, guess what? This technology is available in two flavors. The first is a plug-in card that installs into the Web server and is responsible for off-loading SSL encryption. The card has special processors designed exclusively for processing the calculations needed for encryption key generation.

The other option is a stand-alone black box that sits between the Web server and the border router or firewall and handles SSL processing tasks.

Although the devices are different, the concept is basically the same: off-load the SSL encryption to another device to free valuable Web server CPU cycles for other duties. One system requires a card to be installed and maintained in each server; the other consists of a piece of equipment that could become a single point of failure if you don't have a second unit as a hot standby. There are pros and cons for each approach, and I have to make the decision.

Generational Issues

Now to the next issue: the overhead of having to regenerate keys for each of the user's subsequent https requests to our site.

What if there was a way to identify the user so that, for every subsequent request, I didn't have to generate an additional key for the connection? In other words, I want to use the same key for the entire session. Guess what? That can also be done.

Most versions of Web server software have "session reuse" or "SSL session caching" ability. With this setting, after the initial key generation occurs, the Web server keeps track of the session by using a session identifier. The Web server watches, and if subsequent requests contain the same session identifier, it uses the same key.

There are other aspects of performance that need addressing, too — decreasing the size of the Web page, decreasing the amount of hits it takes to render a Web page, load balancing and, of course, content caching — but those are beyond my scope and responsibility as a security manager.

So with all these technologies, how is a small company supposed to manage this specialized infrastructure? Well, we could hire a few engineers who have experience in load balancing, caching, SSL acceleration and all the other performance-enhancing technologies.

Or we could outsource the configuration and ongoing operational aspects to a third party such as Boston-based managed service provider (MSP) Coradiant Inc. Such MSPs have many data centers throughout the U.S. They perform the setup, administration and ongoing maintenance of all the areas dealing with scalability and performance and would let us focus on our core business. It's an option we just might consider in tackling this monster called performance. ◗

THISWEEK'SGLOSSARY

RC4: An algorithm used for file encryption and to provide a secure, encrypted communications stream to and from Web sites using the SSL protocol. RC4, which was developed in 1987 by Ronald Rivest for RSA Security Inc. in Bedford, Mass., stands for Ron's Code No. 4.

Secure Sockets Layer (SSL): A security protocol that ensures privacy for the Internet communications stream between the Web client and the server. It's designed to prevent eavesdropping, tampering and message forgery.

LINKS:

www.rsasecurity.com/rsalabs/faq/5-1-2.html: Understanding SSL is critical for security professionals. A great resource to bookmark and read at your leisure is "What is SSL?" on RSA Security's Web site.

www.infosecuritymag.com/articles/january00/cover.shtml: The article "Fast. . . & Secure" on the *Information Security* magazine Web site explains in more detail the options for SSL acceleration and can help you decide which technology is right for you.

www.ivea.com/cryptoswift/cs_pci.html: Irvine, Calif.-based Rainbow Technology Inc.'s CryptoSwift accelerator cards are one approach to accelerating SSL performance.

www.intel.com/netstructure/ecommerce_equipment.htm: Intel Corp.'s NetStructure devices are a good example of the black box approach to SSL acceleration.

www.coradiant.com: One way for companies to address performance issues – SSL-related and otherwise – may be to outsource them to a managed service provider like Coradiant.

■ This week's journal is written by a real security manager, "Mathias Thurman," whose name and employer have been disguised for obvious reasons. It's posted weekly at *www.computerworld.com* to help you and our security manager better solve security problems. Contact him at mthurman@hushmail.com or head to the Security Manager's Journal interactive forum.

Shipping Goes Down The Tubes

A system for moving goods through a high-speed pipeline is not so far-fetched, say some researchers. By Linda Rosencrance

IMAGINE A national network of pipes, some as small as one foot in diameter and half a mile long, for transporting mail or machine parts between two buildings, and others as large as six feet in diameter and hundreds of miles long for intercity and interstate freight shipment. Sound far-fetched?

Not to Professor Henry Liu, director of the Capsule Pipeline Research Center (CPRC) at the University of Missouri in Columbia. Liu has spent more than 20 years researching pipeline technology systems in which close-fitting capsules carry freight through underground tubes between terminals.

As traffic congestion and pollution increase and fossil fuel supplies dry up, scientists are looking to innovative modes of transportation to transport freight more cost effectively and efficiently.

"This new pipeline technology can transport freight such as coal; solid waste, including hazardous waste; [and] agricultural products, as well as mail and parcels," Liu says.

Two Propulsion Systems

Liu is investigating two capsule propulsion systems to move freight: pneumatic systems propelled by air pressure, which use air from booster fans or pumps to move the wheeled capsules through underground tubes, and a slower hydraulic system.

Hydraulic systems would push freight at 6 to 10 feet per second, while pneumatic systems would run at much higher speeds — 20 to 50 feet per second, Liu says.

Freight pipelines would employ a communication system that uses microwaves, cables and satellites operated automatically by a computer at the pipeline company's headquarters, he says.

William Vandersteel, an inventor in Alpine, N.J., is working to improve the technology used in the pneumatic pipeline system. In Vandersteel's tube pipeline, called TubeExpress, goods are carried in free-wheeling vehicles (capsules) that are pumped through the pipelines by electrical power. The CPRC is studying the use of an electromagnetic propulsion system called a linear induction motor, like those used in roller coasters and high-speed trains, to move freight through the pipeline, according to Liu.

Using this system, an electromagnetic charge in induction coils set at intervals within the pipeline would propel the capsules forward. Moving the capsules directly instead of by pumping air would allow the system to operate without interruption or distance limitation.

Daryl Oster in Crystal River Fla., has invented the Evacuated Tube Transport, which he claims could move goods from Miami to New York in 25 minutes and from New York to Hong Kong in three or four hours. Oster says his patented system, which works by eliminating friction, could be built aboveground as well as underground.

And while Oster's system — with its promise of speeds that surpass 2,000 miles per hour — may strain the imagination, there are already real freight pipelines either in existence or close to development.

In the Netherlands, the Dutch parliament is discussing a freight pipeline project that could link Schiphol Airport in Amsterdam to the flower market at Aalsmeer. And in Japan, an older pneumatic system, the Sumitomo Capsule Liner, carries limestone from a mine in Tochigi Prefecture to a plant 188 miles away, keeping heavy truck traffic off local roads.

But capsule pipelines aren't the only innovative transportation technology that could be used to move freight.

Francis Reynolds, an engineer and technical inventor in Bellevue, Wash., has developed what he calls a "dual-mode" system that would allow delivery vehicles to be used on streets as well as on "guideways."

Cargo-containing vehicles would travel on automatic guideways — which would use electricity to power the vehicles — built on a different level than the streets. The dual-mode vehicles would be battery electric or fuel cell electric for street use.

"Since we can't get rid of the [vehicles], let's make [vehicles] that aren't bad," Reynolds says. "They can travel in a normal manner on local streets, but most of the highway traffic will be done on guideways, where they can travel automatically at 60 mph in the city and 200 mph on the guideways between cities."

Reynolds says some dual-mode advocates propose supporting the vehicles on the guideways with pneumatic tires; others propose steel wheels on steel rails. But many advocates believe that maglev (magnetic levitation) guideways show the most promise, he says.

James Guadagno, a general partner at Paonia, Colo.-based Cimarron Technology Ltd., has developed the Integrated Transportation System, a dual-mode system in which vehicles would be propelled by linear synchronous motors, which would allow vehicles to travel automatically on a guideway at a constant speed.

A Key Partner

Though engineers and inventors are high on new transportation technologies to move freight, the U.S. government, which is a necessary partner in the development of new transportation technology, doesn't share their enthusiasm.

In fact, the U.S. Department of Transportation (DOT) says it isn't doing any research into any of these systems. The Federal Railroad Administration (FRA) is, however, exploring the use of maglev vehicles to transport people, says Arnold Kupferman, manager of the FRA's maglev program.

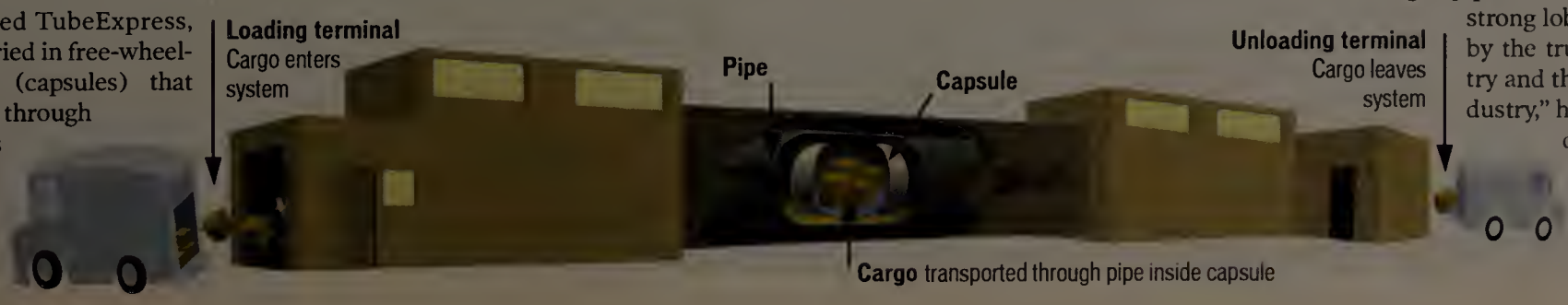
According to Kupferman, it would take an act of Congress for any federal agency to shift its focus to alternative modes of transportation.

John Fontanella, an analyst at AMR Research Inc. in Boston, says that's not likely to happen. The reason the government isn't on board with these new technologies is that none of these systems is economically viable, he says.

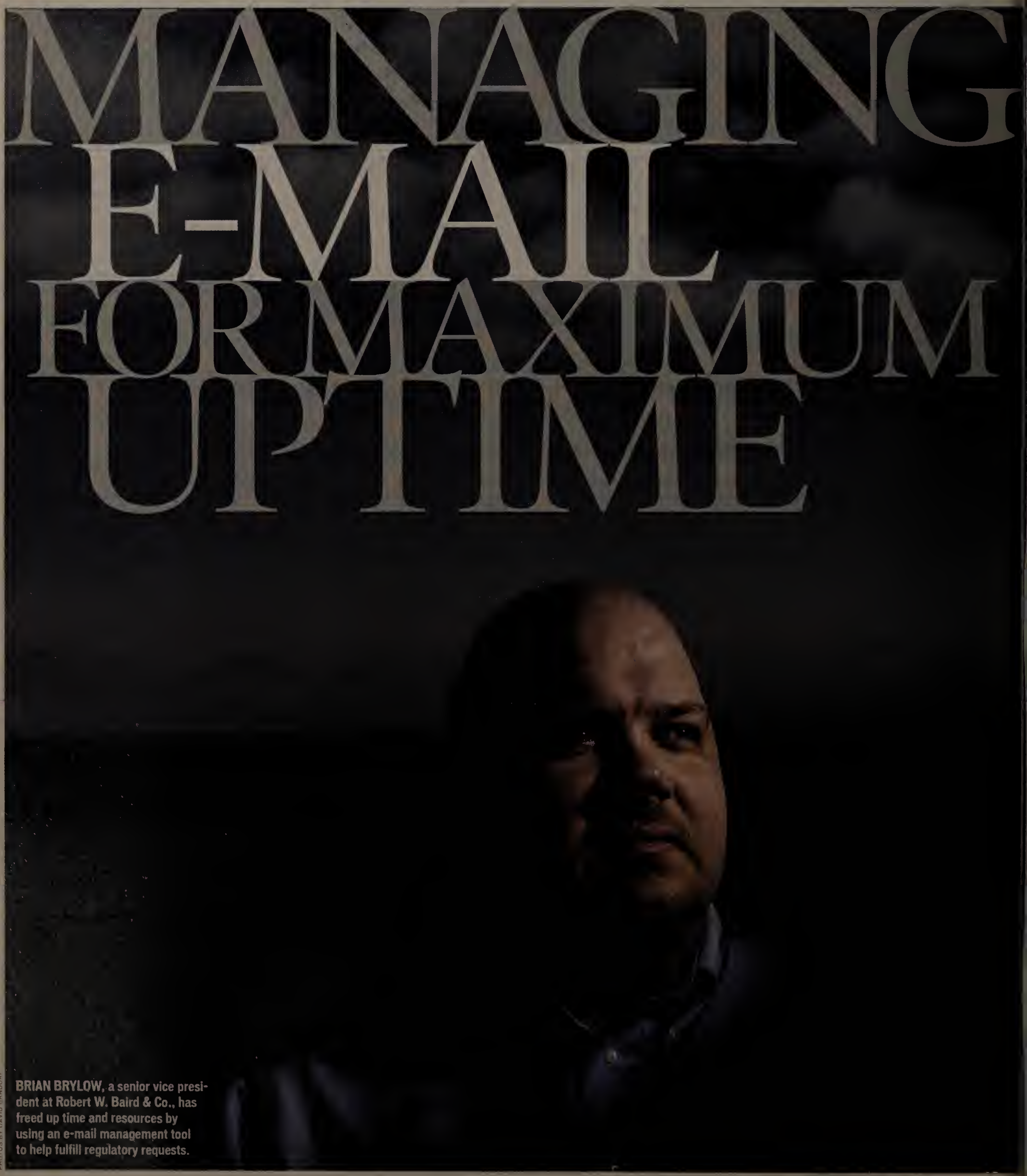
But Liu has a different explanation for the lack of government involvement. "A more possible reason for DOT neglect in freight pipeline research is the strong lobbying efforts by the trucking industry and the railroad industry," he says. "They do not want competition from pipelines."

Freight Moves Through the Pipeline

In pipeline shipping systems, freight would enter the system at a loading terminal, where goods would be packed into capsules that fit closely into the pipeline. The capsules, either individually or in chains, would then be propelled through the pipeline via pneumatic, hydraulic or electromagnetic power to the unloading terminal, where the capsules' cargo could be unloaded and leave the system.



MANAGING E-MAIL FOR MAXIMUM UPTIME



BRIAN BRYLOW, a senior vice president at Robert W. Baird & Co., has freed up time and resources by using an e-mail management tool to help fulfill regulatory requests.

PHOTOS BY DAVID BINDORF

It takes a motley mix of policy, home-made tools and third-party utilities to keep e-mail flowing. By David Essex

"WE'D LIKE E-MAIL TO BE like the telephone," says Brian Glass, manager of network administration and infrastructure at Del Webb Corp., neatly encapsulating every network manager's idea of nirvana. But he's just spent an hour explaining how his company's generally solid GroupWise e-mail software from Novell Inc. falls short of the ideal.

"We're not really interested in managing it," Glass explains, having earlier confided his concerns that an upcoming switch to Microsoft Corp.'s Exchange 2000 will only complicate the management of e-mail at his firm, a Phoenix-based real estate developer.

Software vendors, market analysts and users like Glass say the need for e-mail management tools and techniques has risen in recent years, along with the volume of e-mail and its increasing centrality to business processes. The number of e-mail messages and the size of file attachments have grown exponentially within the past two years, these observers say, clogging e-mail gateways and filling up network storage.

Some network managers believe their role is to keep e-mail conduits free and clear while providing a handful of critical e-mail-related services. Many e-mail management tools, such as the AppManager suite from NetIQ Corp. in San Jose, therefore function as a sort of early-warning system against threats to the channel's availability, such as bandwidth-hogging viruses or stressed-out server hardware.

A smaller category of tools addresses content management, helping to ensure, for example, that e-mail isn't used in a way that could subject a company to sexual harassment suits and other legal challenges. Homegrown software and policies and the e-mail systems' built-in features are also typically part of the management mix.

David Druker, an analyst at San Francisco-based Ferris Research Inc., says he's noticed a shift in emphasis toward treating e-mail like an always-on utility maintained by IT departments that function like internal service providers. "Virtually everyone talks about how the management is allowing them to meet service-level agreements," Druker says.

The demand has given rise to more than 30 performance-monitoring companies. Many are tiny one-product operations, but others, like NetIQ and rivals BMC Software Inc. in Houston and Candle Corp. in Santa Monica, Calif., are major players in the larger e-commerce infrastructure market. Druker also points out that those performance-monitoring firms don't include other e-mail management applications such as antivirus, directory management and synchronization, or migration tools.

Managing e-mail can be tricky because there's no one-stop solution. "Nobody buys just one of these products," says Druker, who interviewed users for a report, "The Messaging Management Marketplace," which is being published by Ferris Research this month. "Some of these management products are a management challenge themselves."

Druker advises corporate IT to ask vendors for specific features and then make sure they listen. "A lot of the people who seem to have things working the best seem to have the ear of the vendors," he says.

Keeping Things Legal

At Robert W. Baird & Co., a Milwaukee-based investment banking and wealth management firm, three central Microsoft Exchange servers provide e-mail to 3,000 desktops in 81 U.S. and European offices. While availability is important to Senior Vice President Brian Brylow, he says his paramount concern is maintaining the company's e-mail paper trail.

"An SEC regulation requires us to save a copy of every message sent out of the firm and sent into the firm," says Brylow, who's often asked to produce the information on a moment's notice. In the past, the solution was "journaling" out of each user's personal folder files, or PSTs. But each PST holds up to 17,000 files, and Exchange doesn't provide an organized way of searching through them. All Brylow's people could do was sort message headers alphabetically and visually scan them for relevant messages.

Since late last year, Brylow has turned to EmailXtender from OTG Software Inc. in Bethesda, Md., which brings organization and searchability to the company's e-mail data stores. "Searches that would have taken days or weeks are 5- to 10-minute affairs now," Brylow says. EmailXtender has freed his staff to monitor the e-mail system instead of spending their days researching regulatory requests.

There are also intangible benefits to having a faster, more reliable way to comply with regulations. "I had a very time-sensitive request to have a large volume of e-mail reviewed," Brylow says. He might have turned it down in the past, but "using the EmailXtender product, I satisfied the request in 30 minutes. This is putting my entire history of e-mail at my fingertips," he says.

Brylow's content management tool kit doesn't stop there. He uses MIMEsweeper from Baltimore Technologies PLC in Dublin to monitor the content of Simple Mail Transfer Protocol (SMTP) messages. A second package, Assentor from SRA International Inc. in Fairfax, Va., monitors Exchange messages to prevent Robert W. Baird's financial advisers from violating federal regulations by, for example, promising customers a guaranteed rate of return on certain investments. Brylow handles e-mail security with internally developed tools that he won't discuss.

Another monitoring tool Brylow uses is ProVision from Platinum Technology International Inc. (since acquired by Islandia, N.Y.-based Computer Associates International Inc. and discontinued), a network-wide tool with some Exchange features. ProVision performs uptime monitoring by pinging the Exchange servers on a regular basis. Custom-written Perl and shell script utilities monitor the flow of SMTP and Exchange messages.

"What we're looking for is that mail is moving internally among servers," Brylow says. "We wrote the tools because we had some problems in the past with an ISP connection going down and mail not going out

E-Mail Management Tools

■ **AppManager**
NetIQ Corp.
San Jose
www.netiq.com
$600 per server; $2,500 per console

■ **ARCserve 2000 Advanced Edition**
Computer Associates International Inc.
Islandia, N.Y.
www.ca.com
$1,395 per server

■ **Assentor**
SRA International Inc.
Fairfax, Va.
www.sra.com
$140 per seat (100-999 units)

■ **CiscoWorks 2000 (LAN Management Solution)**
Cisco Systems Inc.
San Jose
www.cisco.com
$19,995

■ **EmailXtender**
OTG Software Inc.
Bethesda, Md.
www.otg.com
$50 per seat

■ **Guinevere**
Industrial Economics Inc.
Cambridge, Mass.
www.indecon.com
$500

■ **Candle IntelliWatch Pinnacle for the Enterprise**
Candle Corp.
Los Angeles
www.candle.com
$4,800 per Domino server

■ **ManageWise**
$795 for five users

■ **ZENWorks for Desktops**
$295 for five users
Novell Inc.
Provo, Utah
www.novell.com

■ **McAfee GroupShield Domino**
Network Associates Inc.
www.mcafeeb2b.com
$39 per user

■ **MailSweeper for SMTP**
Baltimore Technologies PLC
Needham, Mass.
www.mimesweeper.com
$2,116 for 50 users

■ **OpenView Network Node Manager 6.01**
Hewlett-Packard Co.
Palo Alto, Calif.
www.hp.com
$6,000 for 250 users

■ **Patrol**
BMC Software Inc.
Houston
www.bmc.com
$820 and up per Windows 2000 server

at 2 a.m. I now have someone 24/7 getting hit on their pager if it's not received on the Internet side or [if] a reply on the Internet side doesn't come back internally. In a moment's notice, I know I've got an outage, and I'm reacting to it. That's how we provide the firm 24/7 uptime."

Brylow also ensures performance by using several generic network-monitoring tools, including Hewlett-Packard Co.'s OpenView and CiscoWorks from San Jose-based Cisco Systems Inc. He says he's considering more comprehensive monitoring suites, including BMC Software's Patrol and products from NetIQ. However, Brylow says he sees such tools as more important to someone trying to squeeze availability out of hardware that's running near capacity.

"We tend to oversize servers as opposed to running really tight," he says. "They're really not breaking a sweat."

> This [management tool] is putting my entire history of e-mail at my fingertips.
>
> **BRIAN BRYLOW, SENIOR VICE PRESIDENT, ROBERT W. BAIRD & CO.**

Electronic Weigh Station

Del Webb is a medium-size company with a large appetite for e-mail. It maintains six dedicated GroupWise 5.53 servers plus about 70 shared machines to provide e-mail for 3,300 of its 4,700 employees in 13 offices. Besides being the internal lifeline, GroupWise is a temporary communication channel for contractors and has processed half a million sales leads forwarded from the company's Web site.

The company has used GroupWise for seven years and finds it reliable and easy to manage, says Dirk Ellsworth, senior director of information services. With 10 network administrators at Del Webb's headquarters, Ellsworth says, he couldn't afford to run high-maintenance e-mail. "We probably have half a person who's dedicated to e-mail management," he says.

As a firm that regularly circulates large documents such as master plans and engineering blueprints, Del Webb is especially vulnerable to e-mail attachments that can bog down the entire network, causing gateways to crash. "We strongly encourage people not to attach 20MB worth of attachments," says Glass. "The gateways generally fail when you send 20MB." He acknowledges that the attachments policy hasn't been effective, though, so to stay aware of gateway uptime, the company uses Novell's ManageWise to automatically send alerts to network administrators, who then must reboot the offending gateway. Additional network monitoring is provided by seven data center administrators using HP's OpenView.

Guinevere antivirus software from Industrial Economics Inc. in Cambridge, Mass., recommended by Novell, is a less closely managed uptime and security tool, since GroupWise isn't as popular a target for hackers as Exchange, according to Glass. But Guinevere frequently rejects messages that are virus-free, says Glass, so the company runs it only on servers rather than distributing copies for each desktop. "We're just not finding anything [antivirus] that's really good for GroupWise," he says. GroupWise's built-in security is generally adequate, though Ellsworth says he regrets its lack of encryption for Internet mail, a shortcoming he hasn't tried to address with third-party software.

Moving users to new locations or PCs is easy in GroupWise, requiring the migration of just the post office to the new client system, Ellsworth says. Upgrading GroupWise itself is a different story. Ironically, Del Webb normally uses Novell's own ZENWorks for Desktops suite to distribute and install application software, but he can't use it for Novell's own e-mail application.

"We tried using ZENWorks for GroupWise, with disastrous results on this last version," Glass says. "We got a barrage of errors at the workstation."

Because of apprehension about Novell's financial prospects and commitment to GroupWise — the recent outsourcing of support to less-knowledgeable HP technicians was cause for concern — Del Webb has decided to replace GroupWise with Exchange 2000, starting this spring. Ellsworth says the expected benefit is better integration — without custom programming — with back-office systems such as SaleLogix and Lotus cc:Mail, a legacy program GroupWise doesn't support well.

Despite assurances from Microsoft that Exchange won't add to the management burden, Ellsworth and Glass are skeptical. Ellsworth says he wonders if the new version improves on past versions' remote access tools, which, in his experience, have been "just a nightmare."

Prudential's E-Mail Insurance Policy

E-mail management at The Prudential Insurance Company of America in Newark, N.J., tends to center on size issues. The company's Lotus Notes system consists of 250 servers running Domino 5.06 and Notes 5.04a clients on the desktops of 65,000 mostly U.S.-based employees. Four thousand Notes databases hold mission-critical policy documents and workflow applications.

"Managing the size of users' mailboxes — that's a huge problem," says Michael Boatright, vice president of data center technology and IT operations at Prudential. Prudential employees tend to keep all of their messages because of regulatory requirements. "All of the other Notes companies that we talk to tend to face this problem. [Users] tend to keep their file directory in mail," he says. The practice strains storage systems and puts a premium on efficient backup, which is done with CA's ArcServe software and managed by another Prudential department.

The company struggles to satisfy requests to restore backed-up messages that often come from users who have accidentally deleted them. Restoring the Notes databases with ArcServe isn't always smooth. "There are some cases where we'd like other tools," says Michael Mandelbaum, Prudential's vice president of information systems.

Creating and managing large Notes distribution lists is another challenge. Prudential has developed an application called Notes.com in a Notes programming language. "It can select users in a department, building, grade level, job function, expense code, etc.," Mandelbaum says. "It does real-time queries against a DB2 database and returns a list of e-mail addresses."

Notes.com also screens for large messages and attachments that could tie up mail servers, especially when the attachments are addressed to a large number of employees. Warning messages pop up on users' screens and the operations department is notified. "We have put size warning messages on messages that exceed 200K [and] attachments greater than 500K," says Mandelbaum. "We have [also] created a monthly summary that gets sent to the owners of large mail files, giving them links to large and old messages and statistics about their mail files."

"The Notes.com tool has caught many people trying to send very large jobs," Boatright says, including one user who tried to send a 500KB file containing a logo to 65,000 people.

Attachments greater than 5MB are completely blocked. "It notifies the person who sent it that it's being held for review," says Doug Conway, a Prudential project manager. Further management is provided by what Mandelbaum calls an attachment warehouse: 10 4GB databases spread out over several servers programmed to purge the files after 14 days. IntelliWatch Pinnacle software from Candle is the company's monitoring tool, providing alerts when disk space runs low or messages aren't getting through.

Internet mail presents unique problems in content and traffic management. Approximately 30,000 outbound and 40,000 inbound messages flow through the company daily, according to Conway. Prudential employs several commercial "spam blockers" to fend off unsolicited mail but won't identify the software for security reasons.

McAfee Anti-Virus from Santa Clara, Calif.-based Network Associates Inc. provides virus protection. Alerts are sent via Notes mail, and the company's support staff is notified when the software tries to remove a virus from an employee's PC.

Like many companies, Prudential also employs policies and procedures to manage e-mail. Employees are sent twice-yearly reminders about inappropriate personal use of Notes, though the policy is now being reviewed, says Mandelbaum.

The chief benefit of the company's e-mail management efforts, Mandelbaum says, is "99.99% uptime. Without some of these things, I think we would have chaos, to say the least. These tools have been invaluable in keeping our environment healthy."

Essex is a freelance writer in Antrim, N.H.

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Workshop: Becoming a Strategic Business Partner With Your Hiring Managers
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STAFFING CONSULTANT

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- Discuss the Hiring Manager's concerns and issues to better identify how to insert the Hiring Managers as part of the solution matrix, and not as outsiders taking away critical production time
- To cease being the unwelcome outsiders and sometimes tolerated "outsiders"
- How to better serve Strategic Business Partners by focusing on their real needs and not on the perceived needs of Hiring Managers
- Becoming the "Project Manager for Staffing" for "Business Partners," a more rewarding and critical career than "Resume Router"

Technology 2001
SUSAN HODGES
SEMCO ENTERPRISES, INC.

There is always something new going on in IT, but the new millennium seems even busier than usual. The Internet is affecting everything that's being done and new products and skills appear daily. This session will look at the new technology in each critical area: platforms, development, data, communications, and applications.

Update on Immigration Laws Affecting Your Professional IT Staff
HARRY JOE, ESQUIRE
JENKENS & GILCHRIST

Update on the new immigration provisions for H-1B and Permanent Residence processing and their impact on recruiting and retention, and the new labor certification procedure proposed by USDOL.

Xtreme Recruiting: How We Got Here and Where We Go from Here
MICHAEL MCNEAL
PURECARBON

Michael McNeal, Chief Industry Evangelist of PureCarbon Inc., will discuss innovative approaches to HR issues, recruitment philosophy, hiring models, basic retention, and the Internet revolution. McNeal will help HR managers in a variety of fields, including B2B partners, government, universities, and companies of all sizes, to effectively increase employee retention. He will share his proven staffing strategies from Cisco Systems that will allow managers and trainers to stay competitive in a global market. McNeal will challenge conference attendees to look at the employment process differently as a method to increase retention at their organizations.

Best Practices of Retention
CATHY PETERSON
ANALYSTS INTERNATIONAL

Retention of key employees is on every CEO's agenda today, yet no one company has the prevailing solution to this enormous challenge. This highly interactive session will present best practices from different companies around the country. An open forum will follow, in which participants can share their own practices and discuss alternatives for retaining top talent.

Retention: Who's Responsible & How to Improve It
KEVIN WHEELER
GLOBAL LEARNING RESOURCES, INC.

Everyone points fingers when it comes to keeping good people. Some say it's the responsibility of the manager, others say it's all about good selection, and others say those aren't as important as salaries and benefits. Who's right? Through some mini-case studies, we will look at several organizations' efforts to control turnover. This seminar will discuss the research around retention and provide a framework for understanding it better.

Automated Screening: Guaranteed Success or Formula for Failure?
DR. WENDELL WILLIAMS
SCIENTIFICSELECTION

This highly interactive workshop will debunk bad selection science, present an easy to use performance model that will help refine selection measurement in the organization, discuss why organizations cannot trust vendors to shield them from legal liability, provide an enhanced awareness of how to separate good recruiting technology from junk science, present what can and cannot be measured using Web-based technology, provide a list of essential questions to evaluate both potential and current vendors, and gain an understanding of how you can really use the Web effectively in selection.

Panel Discussion: Diversity - What You Need to Do to Tap "All" the Top Talent
PRESTON EDWARDS (MODERATOR)
IMDIVERSITY.COM

Top employers benchmark how diversity has become a core value to attracting and retaining top talent and keeping a competitive edge.

Panel Discussion: What You Really Need to Know About Resume Management Systems or, How to Tell "Real Ware" from "Vaporware"
MARK MEHLER (MODERATOR)
MMC GROUP

SHANIL KADERALI
CISCO SYSTEMS

KATHLEEN BROWN
SKILLS MATCH CENTER

JIMM SIMS
INTEL

The world's most competitive corporations discuss the pros and cons of choosing and using emerging technology tools and systems.

Town Hall Forum: Pundits, Puns and Pulled Punches
MARK JESKE (MODERATOR)
COLLEGIS

GERRY CRISPIN
CAREERXROADS

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FIREWALLS

LAST DECEMBER, A BANK IN Southern California received a call from an online customer asking why one of the bank's computers was trying to hack into his system. It turned out that the machine doing the hacking belonged to the bank's president and had been remotely commandeered by an employee. The president called Conqwest Inc., a Holliston, Mass.-based IT security services firm, which is now rolling out firewall software across the bank's 125 internal desktop, laptop and remote computers.

Until recently, companies thought antivirus and virtual private network (VPN) technologies would keep remote worker connections safe. But as more workers have been accessing the Internet through broadband services such as cable modems, exposure to hacking attacks through those machines has increased. In October, for example, a hacker broke into a Microsoft Corp. employee's home computer and exploited the VPN connection to penetrate the company's internal network.

At the time of the Microsoft hack, only 15% of 300 security professionals surveyed used any type of firewall to protect remote workers' machines, even though 38% of the reported attacks originated from those machines, according to a report released by Cupertino, Calif.-based security software vendor Symantec Corp.

Some managers are tackling this threat by requiring firewalls on all desktops and laptop computers, both inside and outside the corporate LAN.

"You can have a bodyguard at the front door with a bunch of people beating up on [him], and eventually, [he] will get overwhelmed. Or you can teach everyone karate so they can protect themselves," says Bill Hancock, chief security officer at Exodus Communications Inc., a Santa Clara, Calif.-based Internet service provider.

But these firewall products are still evolving, and IT managers face a multitude of features in personal firewall software programs and hardware devices. For example, some new products allow for centralized monitoring and policy enforcement for remote desktop firewalls, while others may be less sophisticated but easier to use. Still others offer different configuration options depending on an employee's role or whether the remote computer is being used for personal or business use.

Protecting Both Ends

Exodus has deployed CyberwallPlus-SV firewall software from Waltham, Mass.-based Network-1 Security Solutions Inc. on 25 key servers. The company has also installed ZoneAlarm Pro firewall software from San Francisco-based Zone Labs Inc. on 1,000 internal PCs. Exodus plans to install ZoneAlarm Pro on 3,000 computers used by internal, mobile and home workers.

CyberwallPlus-SV is an industrial-strength firewall capable of protecting clustered multiprocessing machines, something Hancock says his personal firewall can't do. Cyberwall installs at the kernel level, hardening it against common attacks and, more important, veiling the machine's identity. If hackers can't tell what the machine is, they can't get at it using common exploits associated with those machines, like sendmail if it's a mail server, or Internet Explorer if it's a Web server, Hancock explains. And CyberwallPlus-SV stands up better to Java and ActiveX mobile code-based attacks than personal firewalls, he adds.

But for individual desktops and remotely connected machines, Hancock says he wanted a less-expensive filtering firewall device that he could centrally manage. CyberwallPlus-SV had no such offering at the time, so he chose ZoneAlarm Pro, which has less-robust features but is cheaper and easier to manage.

"If you run ZoneAlarm Pro in a mission-critical environment, it will not hold up under certain applets and hacking tools. The same thing applies to BlackIce and other personal firewalls," he says.

Hancock adds that while ZoneAlarm was easy enough to install, it snagged on legacy applications and blocked some executable programs from leaving the internal network. "Zone doesn't

PUTTING FIREWALLS on all PCs inside and outside your company's LAN is like teaching "everyone karate so they can protect themselves," says Bill Hancock, chief security officer at Exodus Communications.

ERIC MILLETTE

REACH OUT

A new breed of distributed, centrally manageable personal firewalls can help prevent attacks into the enterprise via remote employee PCs. By Deborah Radcliff

work well with unusual applications," he says.

But after some initial network interruptions, the firewall has proved strong enough to stand up to common exploits launched at individual computers, like port scans that go after vulnerable services, and Trojan horses such as Back Orifice, he adds.

Hancock says he likes ZoneAlarm's central management server, which assimilates reports and alerts from desktop and remote workers' machines, making it easier to separate systematic attacks from simple port probes and false alarms. He also praises its ability to tailor security settings based on a user's role in the company. "The security needed by a businessperson is different than that of our network architects. ZoneAlarm is very nice about these distinctions," Hancock says.

A Matter of Discrimination

The ability to discriminate between types of sessions is especially important when dealing with home users' personal machines, say analysts. "The employee-owned computer is a big issue for most of our clients today. It's pretty hard to say, 'You have to put this personal firewall on your home PC,' and your kid starts screaming that he can't download Napster or AOL," says John Pescatore, an analyst at Gartner Group Inc. in Stamford, Conn. "So you need some type of tie-in with the VPN client that says the company's firewall policy only kicks in when connecting for company purposes."

Most personal firewalls offer some of these distinctions, says Hancock, who uses such a feature on ZoneAlarm. Pescatore praises the CyberArmor personal firewall suite by Los Altos, Calif.-based InfoExpress Inc. for its ability to discriminate between home use, inbound connectivity to the corporate LAN and outbound connectivity from inside the LAN to the Internet.

That ability is one reason Bell Canada International Inc. in Montreal is rolling out InfoExpress on 3,000 portable computers and plans 22,000 installations on internal machines by the end of the year.

"We need a tool that can accommodate the user need while protecting the corporate asset, and it has to be able to accomplish this with minimum interruption to the user," says William G. O'Brien, associate director of systems security technology at Bell Canada. "The InfoExpress firewall allows us to set different parameters, dependent on what mode the user is in. For example, as soon as the user activates their VPN client, the software changes from the standard Internet filter set to a predetermined VPN filter set. When the VPN is turned off, the firewall automatically reverts to Internet mode."

The personal firewalls and central management server were easy to install, O'Brien says, but he warns that one mistake configuring the central management server operating system (such as outdated patches, default passwords, or vulnerable services like FTP) can render the firewall manager ineffective. And the server needs to be fast enough to accommodate an early-morning log-in rush, he says.

O'Brien says he looked at nine firewalls before settling on CyberArmor because of its easy end-user interface and the fact that the central manager leaves nothing up to the end user. As a user logs in to the network, CyberArmor quickly scans that machine's security settings and can also push out changes to security settings dictated by the administrator. "The user never even knows anything is going on," O'Brien says.

Some companies are going a step further by requiring a second, stationary filtering hardware device at home and remote offices. And while hardware firewalls from vendors like Seattle-based WatchGuard Technologies Inc. and Santa Clara, Calif.-based NetScreen Technologies Inc. aren't portable, some managers say they want extra protection for home PCs.

Internet security firm Conqwest combines San Mateo, Calif.-based Network Ice Inc.'s BlackIce Defender firewall software for its 25 local employee laptops and three remote sites with NetScreen-5, a stationary firewall/VPN appliance from NetScreen Technologies.

Conqwest CEO Michelle Drolet says she needed to provide "rock-solid" security for home users while giving them mobile desktops for the road. BlackIce has the strongest intrusion detection available at the desktop level, Drolet claims. But, like Hancock, she says she doesn't think it can filter inbound packets to her level of comfort.

"We need to absolutely guarantee that nobody can get into our machines and exploit the encrypted tunnel back to our office," Drolet says. She adds that she likes Network Ice's centralized reporting of alarms, because the configuration window has helped administrators sort incoming alarms from false alarms.

What Form Will Firewalls Take?

While analysts predict that the market will ultimately consolidate into a single desktop security product or suite that includes intrusion-detection tools, a firewall, a VPN and antivirus protection, there's no consensus on just how this will be accomplished. Already, almost every personal firewall offers VPN capabilities. Vendors are merging and partnering to bundle mixed products into one integrated product. And some companies, like InfoExpress and Symantec, are taking the suite approach.

But then there's the debate over where these host-based firewalls will wind up — as hardware, software or something more like a network adapter, according to analysts. That's why many IT managers say they'll just wait a while before deploying host-based firewalls, in spite of the risks.

"We have a project under way right now to speed up access for our home-based workers. To do so, we know they're going to need firewalls on their computers," says Pat Hymes, manager of the distributed computing team for the information security division at First Union Corp., a financial institution in Charlotte, N.C. "We've piloted some programs, but we're not ready to jump in. The technology's too new."

A Distributed Desktop Firewall System

1 System provides desktop-level packet filtering and intrusion detection. Multimode capability activates corporate policy only when using VPN.

2 VPN connection passes through corporate firewall.

3 Firewall manager intercepts incoming VPN connections, scans desktop firewall security settings and approves or denies access. It also remotely configures desktop firewalls and aggregates reports and alerts at central console.

Making the Web Safer For E-Commerce

BTrade.com enables secure e-commerce document exchanges over the Web

BY DAVID ESSEX

BTRADE.COM is helping companies make the leap from using expensive private network connections to more economical, open Internet-based connections for business-to-business exchanges.

The Irving, Texas-based software vendor's future looks promising, in part because its system has the unusual ability to maintain security end-to-end, even behind firewalls, says Kate Fessenden, a research director at Aberdeen Group Inc. in Boston. BTrade claims that its products complement rather than replace value-added networks (VAN), and it offers client software that allows smaller trading partners with dial-up Internet service to work off-line.

BTrade began as Comm-Press Technologies Inc., when co-founder James Taylor marketed the compression technology he developed for optimizing the transmission of electronic data interchange (EDI) information as a tool to lower transmission costs on VANs. The product was successful, but the company remained small.

Then, co-founder Gene Lucas saw a bigger opportunity in e-commerce. CEO David Lonsdale recalls, "It was Gene who looked at the situation and said ... 'We can deliver the whole thing over IP.' "

The result was WebAccess-2000, which is browser-based software that handles secure data transactions between trading partners and translates between data formats, such as EDI and XML, as well as popular accounting packages. Its SecurePortal2000 server bridges communication protocols and executes transactions; companion SecureManager2000 is the brains of the portal and handles software downloads and other administrative tasks.

A second, older client program, EasyAccess2000, enables IP-based data exchange, but without WebAccess2000's browser interface or data-transformation abilities. All are available in a hosted service called SecureServe2000.

BTrade.com says it has more than 50 customers using its Web-based products. One, American Honda Finance Corp. in Torrance, Calif., is in the process of rolling out its Dealer Financial Information Network, a cobranded system that lets dealers exchange purchase orders, inventory data and financial information with the finance firm, which buys inventory on the dealers' behalf and offers wholesale financing.

Dealers will be able to execute transactions using WebAccess2000 instead of faxes and telephones and can perform some data entry tasks off-line. That off-line capability, along with security features such as digital signatures and secure electronic payments, were among the reasons American Honda selected bTrade, says Debbie Fournier, a group leader.

"The other [vendors] are thin-client," she says. "The way the others work, you have to stay connected to the Internet to do your business."

"We're going to be able to reduce a lot of the manual interaction that's presently being done in our regional offices," adds senior project manager Arnold McCullough, referring to a back-end process that requires finance company workers to read faxes and input payment data for transmission to banks.

Except for minor connectivity problems, the project has gone smoothly, and Fournier and McCullough say they're satisfied with bTrade's software and service.

Eden Prairie, Minn.-based NCS Pearson Inc., a software vendor and test processor whose trading partners include schools, is testing EasyAccess2000 and SecureServe2000 and hopes to phase out its VAN from Gaithersburg, Md.-based GE Global Exchange Services Inc.

"The customers have started seeing the need for Internet capability," says Jeff Sheetz, NCS Pearson's director of technology, adding that cost savings and ease of implementation were the main reasons for the move. So far, he says, he's impressed at how quickly NCS Pearson got the system up and running.

Bolstered by $15.7 million in venture capital, bTrade.com has grown tenfold to 95 employees, but the ride hasn't been entirely smooth. In October, Lonsdale cut the company's staff from 115 to 85, a painful move that nonetheless helped bTrade reach profitability early this year, nine months ahead of schedule, he says.

Despite the business challenges, Fessenden says, bTrade has quietly built trading communities that rival those of the big VAN vendors. "They've been the sleeper," she says. "They just went about their business, and they got it done." ▶

Essex is a freelance writer in Antrim, N.H.

DOUG HOPFER

BTRADE'S David Lonsdale, James Taylor and Gene Lucas (from left) brought their EDI expertise to B2B e-commerce.

bTrade.com

Location: 2324 Gateway Drive, Irving, Texas 75063

Telephone: (972) 580-2900

Web: *www.btrade.com*

Niche: Infrastructure for e-business document exchanges

Why it's worth watching: Its software enables secure business-to-business document exchange over the Web.

Company officers:
- David Lonsdale, chairman, CEO and president
- James Taylor, co-founder and chief technology officer
- Gene Lucas, co-founder and director

Milestones:
- 1990: Founded as Comm-Press Technologies Inc.
- March 2000: Company relaunched as bTrade.com; releases WebAccess2000 and SecureServe2000.
- June 2000: Releases SecurePortal2000.

Employees: 95

Burn money: $4.5 million in July 1999; $11.2 million last April from First Analysis Venture Capital, Hook Partners, Shawmut Capital Partners Inc. and CMS Cos.

Products/pricing: WebAccess-2000, EasyAccess2000, SecurePortal2000, SecureServe2000. Prices range from $500 per trading partner to $1 million-plus for complete marketplaces.

Customers: Citigroup Inc., FedEx Corp., Oracle Corp.'s GlobalNetXchange LLC and others

Partners: Viewlocity, GE Global Exchange Services and others

Red flags for IT:
- BTrade faces strong competition.
- Layoffs late last year and a generally poor climate for venture capital could hinder growth.

COMPUTERWORLD emerging companies

[the buzz]
STATE OF THE MARKET

In the Exchange

BTrade.com competes in the crowded market for electronically linking trading partners and suppliers. The biggest players are private VAN service providers, but in recent years, dozens of newer vendors have begun selling Web-based systems for exchanging business documents.

BTrade.com's niche is the so-called transport layer where incompatible standards, such as EDI and XML, are translated. BTrade's direct competitors include the following:

Advanced Data Exchange (ADX)

Newark, Calif.
www.adx.com

ADX targets small and midsize suppliers with a completely hosted service. Another key differentiator is ADX's many-to-many partner approach, claims Tom Stegmann, vice president of sales and business development. "The more specific you make your solution for two trading partners, the harder it is for them to talk to anybody else," he says. ADX says smaller companies use its exchange service to do business with more than 150 major trading partners, including The Home Depot Inc. in Atlanta.

Stegmann says he regards bTrade as more complementary than competitive because it focuses on the transport layer. For that piece, ADX partners with webMethods Inc. in Fairfax, Va., and Cyclone Commerce Inc.

Cyclone Commerce Inc.

Scottsdale, Ariz.
www.cyclonecommerce.com

Cyclone's Java-based software and "open trust" security allow customers to add trading partners more quickly than bTrade does, claims CEO Kent Petzold. BTrade.com co-founder Gene Lucas claims that his company's products integrate better with VANs.

The subject of an earlier Emerging Companies profile [Technology, Aug. 28], Cyclone Commerce has since had a higher-than-expected $31 million round of financing and grown to 161 employees, Petzold says.

IPNet Solutions Inc.

Newport Beach, Calif.
www.ipnetsolutions.com

Matt Finch, IPNet's director of technical services, claims that his company provides more business logic and collaborative tools than bTrade does. "I think we're more robust in what we can do with different data types and the different processes that we can initiate," he says.

– David Essex

Spinning Data Into Gold

Successful data mining involves turning information into something useful for managers and providing valuable answers to vague requests. By Mary Brandel

Profile of a Data Miner

Name: Win Fuller

Title and company: Director of marketing analysis, Staples Inc.

Background: A Ph.D. in econometrics, plus seven years as a management consultant and 10 years as a teacher of economics, management science and computer science.

Nature of work: Fuller works in the analytic services group, mining data on a system containing purchase histories for 15 million customers. "If there is a question as to why things are going the way they're going, someone in our area gets called upon," he says.

Typical day: "Questions might come from senior management, like why sales are doing what they're doing or which customers should we be sending direct mail to. Or I might proactively look for trends that trigger other questions from senior managers," Fuller says. "For example, if a particular product is moving faster or slower than expected, I would mine to see which types of customers are buying that product."

TRACY POWELL

Advice: "If you see a void where you're able to provide answers to the business side, don't be afraid to jump in and do it. Not everybody in IS wants to be a techie forever, and this is a route out of that," he says.

– *Mary Brandel*

When Greg James decided to develop a five-year career plan in the early 1990s, he took out a blank sheet of paper. On it, he wrote down his background, which included large-scale database systems, enterprise system architectures, strategic planning and artificial intelligence. He began drawing lines between the experiences that related to one another, "and data mining was what popped out at me," he says.

That exercise underscores the interdisciplinary nature of data mining and was the start of a successful career for James, who's now pursuing a doctorate in that area while also serving as vice president of information marketing at National City Bank in Cleveland.

As it turns out, there's high demand and low supply for data mining skills today, according to Michael Berry, founder of Data Miners Inc., a data mining consultancy in Cambridge, Mass.

"Many companies are only now waking up to the potential of their vast stores of data," Berry says, and as data mining becomes more common among market leaders, "second-tier companies will want to start mining data in self-defense."

What Does It Take?

Data mining involves extracting hidden predictive information from databases to solve business problems. In some cases, analysts mine data for interesting patterns within a segment of the customer base. Then they look for something that might describe why those patterns are happening, James says.

In other projects, such as a direct-marketing campaign, the analysts know upfront what they're trying to predict. Then they develop predictive models to identify likely customers.

Either way, James says, data mining requires a varied background. "It's not just a computer science or marketing or statistics discipline," he says.

On any given data mining project, James says, you would want a staff that has a familiarity with statistical concepts; a thorough understanding of the business objectives; project management skills, especially in rapid development or research and development; and experience in large databases, data warehouses, online analytical processing and business intelligence systems.

"Sometimes, you're looking for all this in one person," James says. Other requisite skills include fluency with database access tools such as SQL, and programming experience with a data mining tool.

National City Bank uses several such tools, including SPSS Inc.'s Clementine, SAS Institute Inc.'s Enterprise Miner and Group 1 Software Inc.'s Model 1.

Salaries for data miners can range from $80,000 to $150,000. Higher salaries are typically reserved for people skilled in a hot tool or application, or with Web mining skills. Consulting fees for people with Web mining skills can be as high as $200 per hour.

For those with a graphical background, there will be a growing data visualization component to data mining. With the increasing amount of data available, it will become more important to display complex patterns in an easily comprehensible way.

But of all the skills that data miners should have, the most important ones are data analysis and business knowledge. "You really are flying blind if you don't know what you're trying to achieve for the business," James says.

Win Fuller, director of marketing analysis at Framingham, Mass.-based Staples Inc., a leading office superstore chain, agrees. "You need to know data mining techniques and how to use the tools," he says. "But it's more important to be able to distill that information into something that management can use."

Fuller, who has a doctorate in econometrics and seven years' management consulting experience, works with a system that contains purchase histories for 15 million customers. Another nontechnical part of the job, he says, is translating general requests from business managers into productive information, using his knowledge of the data available and mining techniques.

"Most people in upper management don't have a clue how you work," Fuller says. "Sometimes, you have to push back and diplomatically say, 'Yes, we can do that, but it will take 10 years,' or 'It doesn't make sense to do that.' "

It's also crucial to acquire experience with processing large amounts of information, Fuller says. "You need to handle data sets that are hundreds of millions of records, detect glitches in that data and know which statistical tools to apply," he says.

Applications that are appearing on the market from vendors such as Fremont, Calif.-based Accrue Software Inc. and Lanham, Md.-based Group 1 require less knowledge of statistics and programming. "More and more, data mining technologies are becoming embedded in vertical applications," says Judson Groshong, vice president of marketing at Accrue.

"We have hidden the details of the actual algorithms so that the only things users see are the business parameters," says Groshong. The applications are simple enough for a businessperson to use, but a technologist still needs to prepare the data and ensure its accuracy, he says.

Good Data Miners

But that won't endanger a data miner's job. "The thing that makes good data miners better than mediocre ones is something that is hard to teach and impossible to automate: a good intuition for what variables are likely to be useful and a feel for how to coax information out of data," Berry says. Although tools can automate the model-building process, "only the human knows to replace a ZIP code with characteristics of that ZIP code, such as median income and ratio of renters to owners."

People who work in data mining say that despite the many challenges they face, the rewards are great. James says that for him, the greatest challenge — and reward — is the unglamorous side: getting data out of the warehouse or legacy systems and validating it. "There's nothing better than coming out of a meeting knowing you've presented results that are meaningful to the audience and are actionable," he says. "It's not uncommon for us to provide results that can translate immediately into millions of dollars of saved costs."

Brandel is a freelance writer in Newton, Mass.

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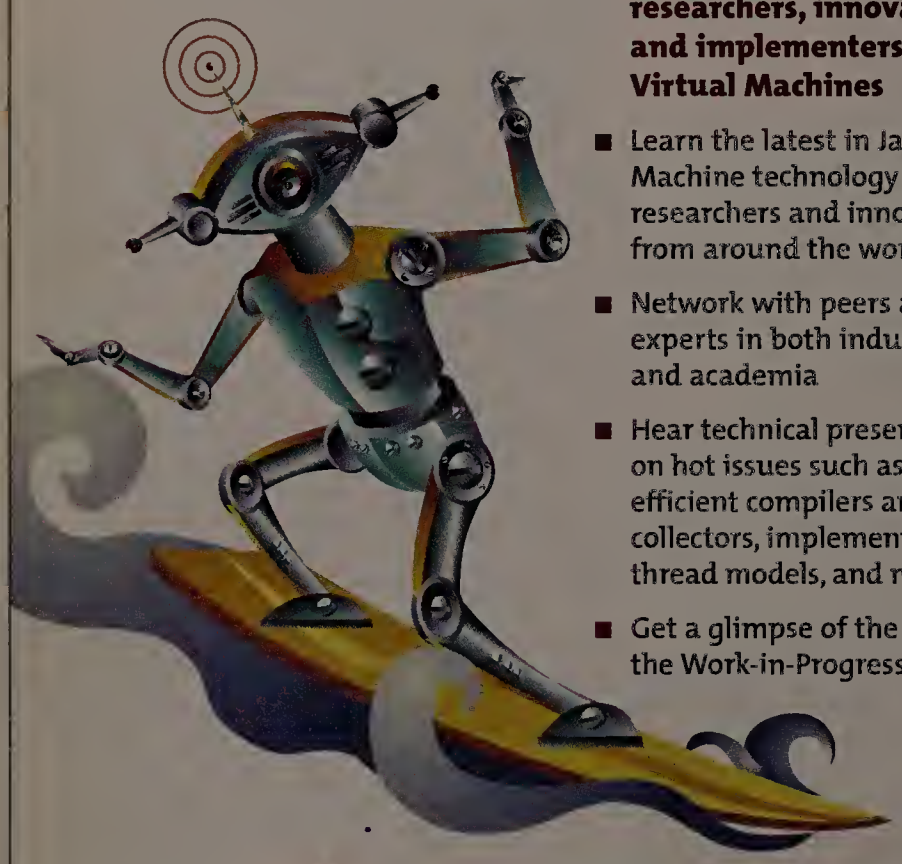

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Software Engineer: Using Visual Basic, C++, DBMS & SQL server to design, develop, test & implement Internet & database applications in NT, Unix environment. Req. BS or equlv. In CIS or MIS with proficiency in C++, DBMS & Visual Basic. 40hr/wk, 8-5, $70K/yr. Contact Ener Touch, Inc.1899 Parker CT, Stone Mountain, GA 30087, fax: 770-978-1798.

Programmer

Developing, design, & creation of accounting & management information applications using SQL & Java, websites including Java applets (animation picture) using Java (AWT, Swing), JavaScript, HTML. Must have at least B.S. in CS or rel. deg. Able to use: Windows NT/2000, Linux. OS/2, MS SQL, MS Word, Photoshop, 3D-Studio, PCAD, C/C++, Java2 (AWT, Swing, JDBC), JavaScript, HTML, SQL.

40.0 hr/wk. 9:00-5:00
Positions Available: Multiple

Applicants send resume to:

Mr. Naum Brodsky, President
A-Soft, Inc.
3620 Dekalb Technology Parkway, Suite 2000
Atlanta, GA 30340

Software Consultant-Will work in various unanticipated locations throughout the US. Provide clients with custom software solutions using Oracle, Oracle Case, & Oracle Reports: Reqs: Master in Computer Science, System Analysis, Computer Information Systems, Computer Engineering, Electrical Engineering, Electronic Engineering, Physics or Mathematics or its foreign ed equiv & 1 year exp in the job offered. $63,450/yr, 40 hrs/wk, 9a-6p, M-F. Must have proof of legal authority to work in the US. Send 2 resumes to: North Metro, Job Order #GA6942482, 2943 N. Druid Hills Rd, Atlenta, GA 30329 or the nearest Department of Labor Field Service Office. An employer paid ad.

Application Developer (2 Positions): Work with developers, analysts and project managers to develop client/server database applications and Internet development solutions. Responsible for developing user interfaces in HTML and Java Script. Also responsible for creating triggers and stored procedures for applications. Requires: M.S. in C.S., Engineering or Quantitative Field and no experience or B.S. in C.S., Engineering or Quantitative Field with 5 years of Software Development Experience. Knowledge of HTML, JavaScript, C, C++ and Delphi. 40hrs/wk (8-5); $67,000.00 to $70,000.00/yr. Send two resumes/responses to: Case Number 20011000 and Case Number 20011001, Labor Exchange Office, 19 Staniford Street, 1st Floor, Boston, MA 02114.

Programmer

Design, develop, & test software, develop ASP, HTML pages. Create DTS packages for MS Access database & transactional SQL 7.0 database. B.S. in CS, ME, Data Proc. Tech. or rel. w/abil. to use VB, MS Access, Sybase SQL, Visuel InterDev, ActiveX, ASP, XML, COM/DCOM, C/C++, Java, QRACLE 8i. 40.0 hr/wk. 9:00 - 5:00 Pos.Avail.: Multiple. Send resume to: Mr. Naum Brodsky, Presldent, A-Soft, Inc. 3620 Dekalb Technology Pkwy, Suite 2000, Atlanta, GA 30340.

Database Administrator: Code, test and implement database utilizing PL/SQL, BI Tools, data modeling (Orecle designer), Data werehouse. BS in Comp Sci (or equiv) & 5 yrs exp or MS in Comp Sci. (or equiv). Send resume: HR Dept., Exinom Technologies, Inc., 120 Wood Av. South, #501, Iselin, NJ 08830.

SOFTWARE ENGINEER: Design and development in client/server architecture using java and Oracle software development tools. Analysis, design and development of software projects involving java, servlets, jdbc and java web servers. Design and development of software projects using Unix operating systems and Windows and software developing languages like java and HTML. Job duties are Design and development of webapplications using Java, Servlets, JSP on the serverside. Using JDBC to connect to Database like Oracle, SqlServer and MSAccess. Working on the operating Systems like Windows95/NT, SunSolaris and Unix. Requires Bachelors in Engineering with 2 years of Software Development experience. 40 hours per week at $50,000.00 per year. Please send resume to Case # 20010005, Labor Exchange Office, 19 Staniford Street, 1st Fl., Boston, MA 02114.

Software Engineers (start at $70K/Yr.) & Programmer/Analysts (start at $68.5K/yr.) needed in A, B, C: (A): VB, ASP, DCQM, MTS, VBA, Active X Controls, ADO, Oracle, SQL Server, DHTML, VB Script, JAVA Script.; (B): C++, Java, HTML, Javascript, SQL Server, Oracle, Java Workshop, Visual Café, Rational Rose, VJ++, Solaris, Linux, NT; (C): Rational Rose, Visio, Visual Modeller, HTML, DHTML, Javascript, VB Script, XML, DOM, ASP, VB, C++, Sql Server, Oracle and testing tools. For Software Engineer positions, MS Science /Engg. or Business Admin. with 2 years exp. in job offered or BS Science/Engg/ Business Admin. with 5 Yrs. progressive exp. req'd. BS Science / Engg or Business Admin. and 2 yrs exp. in job offered required for Programmer/ Analyst positions. Travel to client sites req'd. Send resume to HR, Gyrocon, Inc., 1254 Beaver Ruin Rd., Suite 301 Norcross GA 30093; Phone 1-888-GYRO-CQN; Fax: 770 279-0009; e-mail: Mailbox@Gyrocon.com.

IT TRAINER FOR A+, UNIX (SUN SOLARIS)/HARDWARE & SOFTWARE INSTALLATION. Train students for CompTIA A+ Certification, Unix/Sun Soleris System Administrator Certification, and Introduction to the PC. Assign labs and prepare tests for students. Responsible for fixing clients' computers, trouble-shoot hardware and software-related problems, installing network on-site. Process all types of office work. Bachelor of Science in Computer Science and include 2 years job experience in computer fields. Must have A+ certification, and experience in UNIX (Sun Solaris), 6 months' experience in office work. Knowledge of Visual C++, HTML, SQL, Oracle. Must be able to work nights and weekends, when and if required. $55,000/year.

Submit resume to Abdur Malik, C.E.Q., Malix I Technology, Inc., Suite O, 6050 McDonough Drive, Norcross, GA 30093.

Junior Programmer--Plans, develops, tests, and documents computer programs, applying knowledge of programming techniques and computer systems. Consults with user to identify current operating procedures and clarify program objectives. Reads manuals, periodicals, and technical reports to learn ways to develop programs that meet user requirements. Formulates plan outlining steps required to develop program, using structured analysis and design. Must have Bachelor's degree in in one of several limited fields: computer science, engineering, or mathematics. Must include course work in C and Unix. $45,000/ yr. 40 hrs/wk, 9 am- 5 pm, M-F. Submit resumes referencing case # 20010501 to Labor Exchange Office, 19 Staniford St. 1st Floor, Boston, MA 02114.

IT careers

IT Careers in Web Development

There was a time when working in web development meant getting a page up on the Internet. In 2001, the complexity of web pages continues to escalate. Most companies have learned that web development works its way into most every information technology project, whether dealing with legacy systems or in developing entirely new business processes.

Today's web developers know the technical aspects. Their focus now is on solving problems using web processes, providing for ease of use, driving down the expense for host companies and providing the scalability so needed for web businesses to grow.

BlackHog, Inc.
Sunnyvale, CA

BlackHog is taking online supply chain management to a new level, providing the high technology content and value to host collaborative direct materials procurement. Haam Tham, principal architect for BlackHog, explains that the company began in October 1999 by providing this service to semiconductor equipment manufacturers that include Lam Research, PRI Automation and others. Today, the company has more than 30 clients.

"We came from this (the semiconductor) industry and understand the pains," he says. "We aren't just throwing up a web exchange and seeing who salutes. We've spent a lot of time researching with buyers and suppliers, understanding the environment in which they work and what information they need readily available to them."

The result of this study is BlackHog's hosted web application. BlackHog continues to develop new processes and features to better consolidate information from various sources and achieve a usability that is on par with a PC's interactivity and responsiveness while operating over the web. "The next decade will see the emergence of a new class of software – the inter-enterprise software, which will remove barriers to collaboration between enterprises," says Tham. "We have a number of interesting projects ahead. One is personalization, not in the usual sense but encompassing the gamut, from setting individual preferences to company-specific data attributes to customized workflow. We also are developing new access controls that will provide better control in a multi-level supply chain environment."

BlackHog's ClearLink is a hosted web application and the backbone of the business. To continue the evolution of the product, BlackHog works in teams of domain experts, business analysts, usability experts, interaction designers, graphic artists, quality engineers, HTML/JSP developers, Java developers and database developers. "We look at applicants' resumes for some hint on how they design and structure code, the challenging things they have done in specific projects and how they have grown and achieved," he says. "Of course during the interview stage we look carefully for people who understand the overall design process and who fit into our open culture."

BlackHog is among the leaders in the emerging inter-enterprise management software. "We are among the first players, and our management team really has it together and is committed to creating a company that is built to last," adds Tham. "We use leading-edge technology, and the gang here includes some of the best people I've ever worked with. We have five architects (with 10 or more years of experience, who can mentor and assist in your professional growth), who help provide strategic technical vision. We get our hands dirty with day-to-day design and implementation issues, and we're who you can brainstorm with about new ways to implement pluggable behavior."

IT careers

Fannie Mae
Washington, DC

When the economy slows and interest rates fall, information technology kicks into high gear at Fannie Mae. As a secondary mortgage provider, Fannie Mae supports lending institutions. And in today's economic environment, refinancing requests and transactions are up.

To enable the refinancing flurry today and home financing in general, Fannie Mae provides its services and conducts transactions with its customer lenders via the Internet and using software applications. "We also operate as a paperless organization," says Trang Gulian, staffing manager at Fannie Mae. The net result is a high degree of progressive IT projects calling upon technologies ranging from object-oriented, C++ and Java languages to content management and web-development tools. "We're always looking for people with a strong financial, mortgage or banking background, as well as for people with web-related application development experience," says Gulian.

Fannie Mae IT employees work as consultants to internal and external customers. Challenges include providing speed and accuracy for the back-end support of online mortgage applications to addressing the sheer scalability of nation-wide requirements.

"Fannie Mae has been around for decades," says Gulian. In addition to use of leading-edge technologies, "many people come to work here due to our mission. People can relate to our goal of providing affordable housing for homeowners by offering our services to lenders."

Impact Innovations Group
Columbia, MD

Impact Innovations Group views the web challenge over the past few years as two-fold: learning and developing in emerging technologies while hiring and retaining talented web developers. "Today's challenge is much different," says Rich Becker, director of marketing. "It combines the core operations and information of a business with creative branding and design to migrate a first-generation web site toward a business tool that reduces cost and drives revenue."

Impact Innovations' recent web development projects include a mobile inventory tracking system for the Federal Aviation Administration, an online loan origination program for a financial services client, and a business-to-business energy broker system. "In the future, web sites that combine an extremely creative and efficient user interface with world-class web technologies will differentiate themselves from the rest of the pack," says Becker. "The industry has often separated design and creativity from technology, but Impact Innovations is moving toward a more sophisticated model that combines both."

Susan Lane, vice president of talent acquisition and organizational development at Impact Innovations, says the company is hiring account executives and technical candidates with networking and web-development expertise. The top candidates are those that combine this technical expertise and knowledge of vertical markets with experience in the consulting area.

Impact Innovations serves clients in the government, energy, telecommunications, financial services and healthcare arenas. The company plans to hire about 200 people in 2001, with opportunities in Columbia, MD, Richmond, VA, Dallas and Atlanta.

> *"In the future, web sites that combine an extremely creative and efficient user interface with world-class web technologies will differentiate themselves from the rest of the pack."*
>
> *Rich Becker, director of marketing*
> *Impact Innovations Group*

"We are a mid-sized organization that operates as a Fortune 200 company," says Lane. "When new employees walk through the door, they are assigned a career development mentor. You develop your own goals, and we'll work at helping you get there."

MediaServ, Inc.
New York, NY

Over a year ago, MediaServ took a look at its marketplace and made a bold and strategic decision. While the company built a great reputation by building custom applications for eight years, it was time to bring added value in the form of a product. The result is BluePath.

"Our product is designed to enable our professional services team to deliver advanced solutions to our clients," explains Iain MacNeil, director of professional services. "In many cases, BluePath reduces development costs by as much as 40 percent, in addition to reducing risk and time-to-market."

MacNeil says web development has come to mean everything from graphic design to enterprise application development. "MediaServ focuses on our clients' businesses," he says. "We specialize in business intelligence and enterprise application development and integration. We have strategic partners to deliver the front-end web development."

Currently, the company is engaging early adopters of BluePath and continues to work on enhancing both the product and the services provided to customers.

Karen Kugal, who manages recruiting, says the company's hiring focus remains centered on industry experience and business intelligence. "We hire senior people who have proven business experience and a strong technical background," she says.

"At MediaServ we work to harness creative energy at all levels," Kugal adds. "You'll be working with a team that includes leaders in technology and business. We have a passion for what we do, and this is manifest in our long-standing relationships with our clients."

Satmetrix Systems
Mountain View, CA

Among the wonders of the worldwide web promise is the ability to measure and manage customer relationships. Satmetrix Systems is the leader in measuring satisfaction levels, serving clients ranging from America Online, Inc. to eBay Inc., Lucent, and Cable and Wireless.

"The company collects, analyzes and reports out information," explains co-founder David Renaud, executive vice president of development and the company's chief technology officer. "Our processes help our clients identify their loyal customers, at-risk customers, what they like and what they don't."

Satmetrix reports the information out to business units or entire corporations via web pages so that the information can be used for future planning. "We are the only company that has this type of platform, where information comes in and is distilled out to be used as a tool by people with entirely different jobs," says Renaud. Among the projects Satmetrix Systems has undertaken is a complete customer satisfaction system for AOL's tech support system. "Everyone who has had a tech support case receives a survey," explains Renaud. "There are about 10,000 survey completions per day, and we can analyze and provide the survey data in a way that drills down to individual performance by members of the tech support team."

Renaud is looking for IT professionals to run the data center, who know networks and servers, and have experience installing software. "Our super-web masters create, stage and test web sites for every client," says Renaud. "We also need pure software engineers to build the tools, people to do content authoring. There are positions for the highly skilled professional, as well as the smart person who has good communication skills, knows how to identify and understand client requirements and translate into our system.

"This is a very sound business," adds Renaud. "We don't depend on ad revenue, have a good customer list, and provide a highly valuable product. And, while we are a leader in this field, we also have a lot of fun. We founded this company on the basis of it being someplace where we would want to go to work – a slightly different motivation, but it's one that allows us to match people up with what they want to do."

IT careers

For more job opportunities in web development, turn to the pages of ITcareers.

- **If you'd like to take part in an upcoming ITcareers feature, contact Janis Crowley, 650.312.0607 or janis_crowley@itcareers.net.**
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811 North 19 Street
Allentown, PA. 18104

PROGRAMMER/ANALYST to analyze, design, develop, test, implement, maintain and support web-based application software using object-oriented methodology, COBOL, Oracle, DB2, CICS, Visual Basic, VBScript and Microsoft SNA under WIndows 95/98/2000/NT and UNIX operating systems. Require: B.S. degree in Computer Science, an Engineering discipline, or a closely related field with two years of experience in the job offered or as a Software Engineer. Competitive salary offered. Apply by resume to: Sophie Mookerjie, President, Software Paradigms International, Inc., 3 Woodlawn Drive, NE, Marietta, GA 30067; Attn: Job SN

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Senior Software Architect, W. Columbia, SC. 40 hrs per wk., M-F, 9:00 am to 5:00 pm., $100,000 per yr. Responsible for designing and developing software products to increase the overall availability and reliability of Linux-based systems, using C++, JAVA/RMI, SCSI/Fiber Channel medium and storage deviced. Will evaluate and recommend appropriate technologies for production. Will lead a team of 10 software engineers in the above areas. Will identify patent able technologies and assist in the writing and review of patent applications. Must have Ph.D. in Computer Science or Mathematics, and 2 yrs of exp. in the job offered or 4 yrs. exp. as a Software Engineer. Must have 4 yrs. of exp. in: C++, JAVA, and Linux based computer systems. Send two resumes to: Ms. Regina D. Ratteree, E & T Technical Services, SCESC-SC2001264, P.O. Box 1406, Columbia, SC 29202.

SYSTEMS ANALYST: 40 hrs/wk, 8:00AM to 5:00PM, $55,000/-annually. Located in Orlando, FL. Requires a Bachelor's degree in Computers OR MIS andtwo years experience in the job offered. Analyze, implement, develop, modify and customize Oracle financial applications. Perform analytical requirements to resolve issues within the system and develop business process documentation and overview of the modules. Perform functional analysis, user requirement analysis and provide user training. High level design and data flow diagrams. Customize forms and screens. Send resume to Agency for Workforce Innovation, Bureau of Workforce Program Support, P.O. Box 10869, Tallahassee, Florida, 32302., ATT: L. Knight RE: JOFL-2152811.

NETWORK ENGINEER to install, configure, administer, implement and trouble-shoot local and wide area networks under Novell Netware, Windows NT and UNIX operating systems; Design and implement protocols, topologies, passive hubs, switches, and other network related technology, including Cisco routers and switches; Link business objectives with networks and performances; Test, research and recommend products and devise strategy for deployment on local and wide area networks; Develop system applications using C/C++, Lotus Notes and SOL Server in Windows environment. Require: B.S. degree in Computer Science/Engineering, Management Information Systems, or a closely related field with two years of experience in the job offered or as a Systems Engineer; Experience gained before or after earning the B.S. degree will be accepted. Competitive salary offered. Apply by resume to: Raliq Jivani, President, Global Consulting Services, Inc., 3675 Crestwood Parkway, NW, Suite 350, Duluth, GA 30096; Attn: Job FV.

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SR. SOFTWARE ENGINEER to perform senior level design, development, implementation, testing, support and maintenance of security management software applications for network Intrusion detection systems using object oriented analysis and design, network protocols (TCP/IP), Java, Java Servlets, Java Swing and Java JDBC on Windows 2000 and UNIX platforms. Require: Master's degree in Engineering, Computer Science, or closely related field, with 2 years of experience in the job offered or in the design and development of software applications/systems; Experience gained before, during, or after earning the Master's degree will be accepted. Salary: $70,000 per year, 8 am to 5 pm, M-F. Send resume to: Angene Esson, HR Generalist, Internet Security Systems, Inc., 6303 Barfield Rd., Atlanta, GA 30328; Attn: Job BZ

PROGRAMMER ANALYST- Design and implementation of custom front ends using VISUAL BASIC, JAVA and C++. Development of database schema for Informix, Sybase and SOL-Serve. Salary, $34.40 per hr. 40 hr. work wk. (8:00 a.m. - 4:00 p.m.) Overtime, $34.40 per hr. (as needed). Requirements, minimum Associate degree in Computer Information Systems with 2 years experience as Computer Analyst. Experience as computer analyst must include creation of custom relational data bases using VISUAL BASIC. Send Resumes to, MDCD/ESA, P.O. Box 11170, Detroit, Michigan, 48211-1170. Reference No. Employer paid ad.

Programmer Analyst. Design, develop, analyze and implement client server based software applications using software development tools in multiple environments and platforms. Design and develop software applications using Cold Fusion, COM, HTML, Visual Basic, SOL Server. Demonstrated ability designing and devloping software applications using HTML, Visual Basic, SOL Server. $65,000/yr. 40 hr/wk. 9 a.m. – 5 p.m. Must have 1 yr. exp. And B.S. in Comp. Sci., Eng., rel. field/equiv. Send 2 resumes: Case #20011092, Labor Exchange Office, 19 Staniford Street, 1st fl., Boston, MA 02114.

Programmer Analyst. Design and develop client server software applications and work with dynamic generation of HTML response pages using JavaScript, JavaBeans, RMI. Develop and review applications using C, C++, Java. Demonstrated ability designing and developing software application using HTML, C, C++, Java. $65,000/yr. 40 hr/wk. 9 a.m. - 5 p.m. Must have 2 yrs. exp. and B.S. in Comp. Sci., Eng., rel. field/equiv. Send 2 resumes: Case #20011085, Labor Exchange Office, 19 Stanilord Street, 1st fl., Boston, MA 02114.

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Please mail resume to: Human Resources, ERA Consulting, Inc., 175 Pinelawn Road, Suite 200, Melville, NY 11747; or fax to: (631) 630-4729; or e-mail to resume@era-consulting.com

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Groove Teams With Microsoft For Enterprise Collaboration

Peer-to-peer technology part of HailStorm; rivals are largely in client/server space

BY JENNIFER DISABATINO

PEER-TO-PEER technology got another boost from Microsoft last week.

Groove Networks Inc. in Beverly, Mass., struck a development agreement with Microsoft Corp. as part of the HailStorm project. Starting now, the deal allows Groove users to invite others who are off-line to a collaborative session through Microsoft's instant messaging tool, MSN Messenger.

HailStorm lets Microsoft Windows users open and use numerous applications over the Internet through a single sign-on. HailStorm stores personal information and preferences so that end users can more easily make purchases at eBay or buy tickets on Expedia, for example.

Groove users will eventually be able to use central database information in a Groove session and put new or updated information from the session back into the database, according to Groove spokesman Richard Eckle.

Instead of being strictly peer-to-peer, Groove will allow end users to access their companies' central servers.

Peer-to-peer technology essentially means that users keep all information on their desktops and the information is distributed directly from desktop to desktop, instead of through a server. Groove does this in real time, with multiple applications running on different panes in one window.

Groove lets users create workspaces at the edges of the network, without relying on central administration or centralized servers.

No Need to Replicate Apps

Instead of creating a database application for a few people, end users can start their own Groove sessions to collaborate. That eliminates the need to replicate those applications across the enterprise when only a small percentage of employees need to access them, according to Robert Mahowald, an analyst at Framingham, Mass.-based IDC. This reduces network traffic and frees up some storage space on the server.

However, much of a company's critical information is in centralized databases, not at the edges of the network where Groove resides. Customer relationship management, enterprise resource planning (ERP) and other line-of-business software is, at present, outside of Groove's domain.

Soon, that will change, Eckle said. Groove will be able to take data from an ERP application in a central database, for example, and put new information resulting from a collaborative Groove session back on the central server. Other users could then access that data.

Several real-time collaborative applications already do this inside the enterprise, using the client/server model.

Companies like Viador Inc. in Mountain View, Calif., Parlano Inc. in Chicago and Blue Barn Interactive in New York sell portal applications that search databases and pull out data for small group collaborative applications, as well as post companywide intranet applications. Lotus Development Corp.'s Sametime and QuickPlace do this as well.

Viador can cull structured and unstructured data, and Parlano can work with partners or customers outside the company firewall. There are also other peer-to-peer competitors that offer similar services.

Novient Inc. in Atlanta has been working on collaborative software delivered through an application service provider model since 1997, according to an IDC report released earlier this month, and it's built for large enterprise use. ◗

Get Together

While Groove is making the biggest waves, there are a number of real-time collaborative tools:

VENDORS OF PEER-TO-PEER COLLABORATIVE TOOLS

- Groove Networks Inc.
- Novient Inc.

CLIENT/SERVER VENDORS

- Parlano Inc.
- Viador Inc.
- Blue Barn Interactive

Continued from page 1

HailStorm

form will be stable and readily available for use.

HailStorm is a set of XML-based Web services, such as instant messaging and calendaring, that will let users port personal data among their various computing devices and e-commerce sites. It's built on top of Microsoft's Passport single sign-on and authentication architecture.

Microsoft plans to charge $20 to $50 annually for the services, analysts said. The beta version is to ship this fall.

When Microsoft launched the .Net concept last summer, the focus was on business users, said Rob Enderle, an analyst at Giga Information Group Inc. in Cambridge, Mass., but now the company is addressing consumer issues.

"This would have only an indirect impact on business-to-business Web services," Enderle said. "HailStorm is targeted at individuals and businesses that work with individuals."

The role that HailStorm services will play in communicating with the back-end systems and Web sites of trading partners and corporate customers needs clarification, users said.

"It's not clear that HailStorm fits into what we're doing," said Bob Hays, vice president of derivatives development at ABN Amro Bank, a division of ABN Amro Holding NV in Amsterdam.

The bank currently uses Web services that were built with HTTP and XML to make requests for data and services from other Web sites. With these Web services in place, the bank can aggregate financial information from various institutions into a single account statement for customers.

The Simple Open Access Protocol, a standard endorsed by Microsoft and other vendors, is a key part of ABN Amro's Web services infrastructure. But Hays said that .Net isn't the point.

"HailStorm will be useful on Microsoft Windows, but we have lots of other non-Microsoft platforms, and being able to use it along with other platforms is what would really bring value to us," Hays said.

Rob Kogan, vice president of MIS at Nautilus Insurance Co., a general liability and property insurance firm in Scottsdale, Ariz., said his interest in Microsoft's Web services is in automating the exchange of data with trading partners.

"If they come up with a better mousetrap for performing a business function and automating it in the form of a Web services, then we'll take a look at it," he said. ◗

Redmond's HailStorm Forecast

Microsoft's HailStorm targets individual users with a number of communication services, such as e-mail, instant messaging, contact lists and an electronic wallet.

For example, HailStorm would permit an e-commerce site to tap into a user's personal preferences and payment data without the user having to key in the information. The Web application could then port that data to different computing environments as directed by a user's preferences.

Bill Gates, chairman and chief software architect at Redmond, Wash.-based Microsoft, called HailStorm "the most important .Net building block service."

.Net is a middleware layer that lets applications swap functionality with other applications and devices over the Web. Microsoft's Passport is the sign-on mechanism for HailStorm. The vendor plans to charge customers an annual subscription fee for the service.

Microsoft's forthcoming Windows XP, the next generation of Windows 2000, will incorporate HailStorm's communication services. Formerly code-named Whistler and slated for release in the fourth quarter, Windows XP is geared for consumers and uses the same source code as Windows 2000 and Windows NT.

A set of HailStorm beta application programming interfaces are due to ship in the fourth quarter and be available to consumers in the first half of next year. The software developer's kit will be available in the first half of 2002, said company officials.

HailStorm will also support the Linux, Unix, Mac OS and Palm OS operating systems.

According to Microsoft, none of its runtimes or tools are required to build HailStorm services. Forthcoming versions of Visual Studio .Net, the .Net framework and servers will fully support HailStorm, officials said.

– Lee Copeland Gladwin

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FRANK HAYES/FRANKLY SPEAKING

Know the Territory

WHY DO SALES GUYS ACT THAT WAY? You know what I mean: the back-slapping, glad-handing, how's-the-wife-and-kids approach that's been a staple of outside sales forever. Why? Because that's a great way to connect with customers. Sure, it's a little off-putting when that plaid-sport-coat personality revs up. But it gets the customer's attention — and that's the first step to engaging the customer, which has to happen before the sales guy can make the pitch and finally close the sale.

That's managing a customer relationship.

Sales guys know this. They know you've got to know the customer, got to know the prospect, got to know where the lead came from. You've gotta know the territory. And all that knowledge is really focused on doing the deal, closing the sale, booking the business. (And, not incidentally, pocketing the commission.)

If you want to understand why so many customer relationship management (CRM) and sales force automation applications fail (Gartner Group says the death rate is at least 60%), start by understanding this: Sales guys want to sell. The rest is either getting them to the sale or wasting their time.

So while we're hot on back-office-connected wireless CRM applications, sales guys like their Day-Timers. Day-Timers never make them wade through 10 screens to find the customer, never force-feed them somebody else's idea of the right information and never crap out in a tunnel or steel-framed building.

Day-Timers also let them keep track of information that's critical to selling — the names of the prospect's kids, where the prospect went on vacation, which jokes the sales guy has already used on the prospect.

Sales guys know any clown can walk in with a database of what the customer has bought in the past year. The successful clown — er, sales guy — is the one who makes a connection and builds a real customer relationship.

Outside sales guys, like salesclerks and call center headset jockeys and everyone else who deals with actual customers, also know that standardized procedures are fine — as long as you're dealing with standardized customers.

Out in the real world, customers will do what they will, no matter how some big-money consultant or CRM software designer thinks they should act. If a standardized procedure is a straitjacket, the sales guy can't do the deal.

One more key bit of sales guy knowledge: To sales guys, sharing prospects just means giving up commissions. They know that one really, really well.

CRM projects fail because nobody convinces the sales guys that CRM is going to help.

Sales guys aren't stupid. If they were, they'd never get past the receptionist, much less ever make a sale. They're not lazy, or they'd never make a cold call. They're not set in their ways, or they'd still be in starched collars hawking buggy whips.

None of those are the reasons why CRM and sales force automation projects crash and burn. CRM projects fail because nobody convinces the sales guys that CRM is going to help them sell more, better and faster. Or if somebody *does* sell the sales guys, CRM fails because the system doesn't help the sales guys better than their Day-Timers or notebooks or memories.

So now you know the territory — alien as it may seem to standards-oriented, systems-focused, heads-down IT people. If we want our CRM systems to fly, we've got to deliver what sales guys need. We've got to understand what those needs are. But first, we've got to connect with the sales guys, so we can sell them on the idea.

Maybe it's time for us to do a little glad-handing and back-slapping, too. ◗

Hayes, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

SHARK TANK

ONE CABLE Hospital's new patient charting system comes with monitoring software on its own PC. Pilot fish charged with monitoring asks IT techs to configure the new PC on the network, but they drag their feet – we didn't order it, so we can't configure it, they say. Finally, after weeks of stalling, they hook it up one weekend. On Monday, the fish's own PC – right next to the monitoring box – can't log on. Turns out the techs, um, *borrowed* his network cable to connect the monitoring PC. Why didn't you bring another cable? sputters the fish. Affronted tech answers, "I left you e-mail. . . ."

TWO FIELDS Right after consultants finish upgrading this company's sales system, MIS director pilot fish is bombarded by complaints from the sales staff. "Every time they try to input a new account, they get an error message: 'You must complete all fields,' even after filling in all the ones they don't use," fish says. He grills the consultants, who admit that when they added the company logo to the screen, they added it right on top of two now-invisible data fields. "But it *looks* great," grumbles the fish.

ON THREE User trying to set up a modem tells help desk pilot fish that he's sure there's a port conflict. "My modem is configured as COM3, and so is my network card," he insists. Network cards don't use COM ports, fish explains, but the user is adamant – he *knows* it's on COM3. "*How* do you know it's using COM3?" fish asks. User replies triumphantly, "Because it says 3Com right on it!"

FOUR STUDENTS Project manager pilot fish tells admin assistant at a big software company that he wants to enroll four people in one of its training classes. Could the admin please e-mail him a soft copy of the registration form? Next day, fish gets the e-mail – "with four identical copies of the training registration form attached."

FIVE COLORS Pilot fish hands a file off to an admin assistant and asks to have five color copies created from it. And that's what he gets: one each on blue, yellow, green, pink and white paper.

SIX, BUT NOT SEVEN "User keeps yelling at the help desk that his No. 7 didn't work in a mainframe session," pilot fish reports. Fish knows there's no option 7 in that application, and the now-belligerent user insists the keyboard is fine. An in-person walk-through turns up the problem – the user didn't log off properly during the previous session – and it's easily fixed. Now what's this about No. 7 not working? fish asks. Turns out the user has a cheat sheet of step-by-step instructions from his predecessor. "But he could only get through step 6," fish sighs. "He couldn't do No. 7 because of the message on the screen!"

I'm counting on you: **sharky@computerworld.com**. You score a snazzy Shark shirt if your true tale of IT life sees print – or if it shows up in the daily feed at *computerworld.com/sharky*.

The 5th Wave

"I guess you could say this is the hub of our network."

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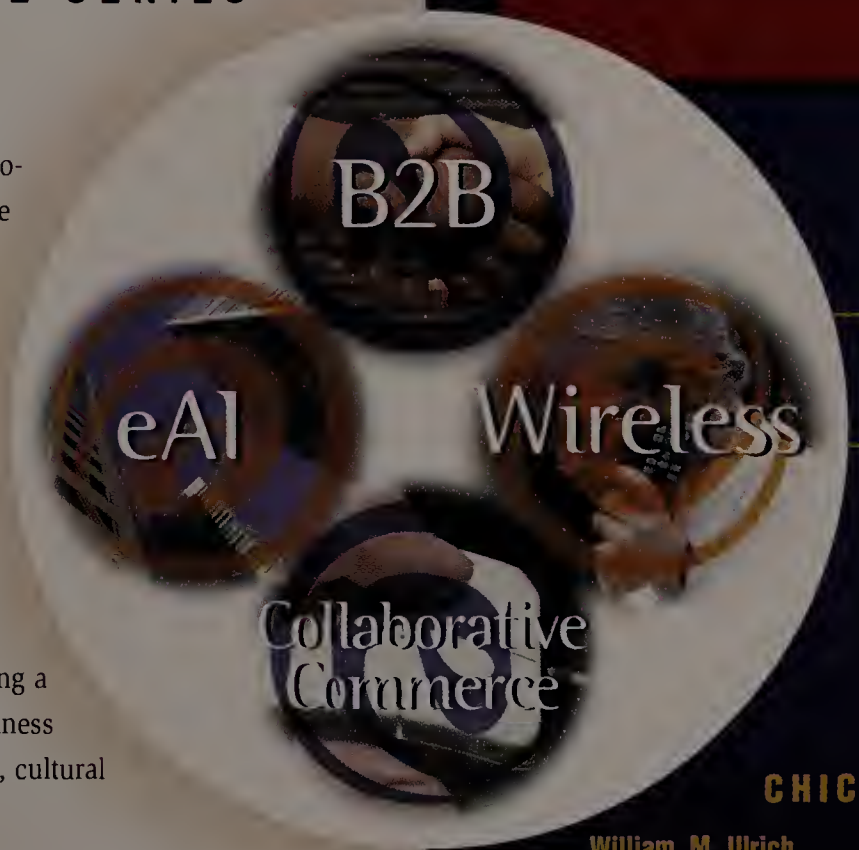
The Integration Imperative

The explosive growth of electronic, business-to-business, wireless and collaborative commerce underscore the importance of an end-to-end integration strategy. Successful integration between infrastructures, networks, marketplaces and exchanges is a critical requirement for future competitiveness and survival.



The promise of e-business will not be realized until businesses begin to address integration from a multidimensional perspective. Successful integration requires establishing a comprehensive strategy that incorporates business and technical infrastructures, external entities, cultural issues, and a wide variety of other elements.

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David Linthicum
Author of B2B Application Integration: e-Business – Enable Your Enterprise

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PROGRAM HIGHLIGHTS
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Demonstrating the Business Value of eBusiness
B2B Strategies: The Next 5 Years
Overcoming Organizations Roadblocks
Supply Chain Integration
An Executive Guide to Mobile and Wireless Computing
Collaborative Commerce
Business Process Management
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For complete agenda and session descriptions please visit www.brainstorm-group.com

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